# FY24 ACM Education Board and Education Advisory Committee Annual Report

For the Period: July 1, 2023 - June 30, 2024

Submitted by: Alison Derbenwick Miller and Briana Morrison, Co-Chairs

# FY24 EXECUTIVE SUMMARY/HIGHLIGHTS

In FY24, the Education Board ("Ed Board") and Education Advisory Committee ("EAC") continued its work to expand direct engagement in education outside of North America directly and indirectly, establishing a formal Nominations Committee to continue to increase the membership diversity of the Ed Board and EAC in all facets. The Ed Board and EAC also focused on supporting the establishment of an ACM Europe Education Committee reporting into the ACM Europe Council, developing standard operating processes, and winding down a number of ongoing taskforces in anticipation of new work in FY25.

The Ed Board held its annual meeting as a hybrid meeting from ACM Headquarters in New York City in January 2024 and the EAC held its annual meeting as a hybrid meeting from Vancouver, British Columbia, Canada, in August 2023, consistent with our FY23 decision that a hybrid approach would be standard for the Ed Board and EAC henceforward.

The following highlighted efforts made significant progress or concluded during FY24:

The decennial revision of the **ACM Computer Science curriculum guidelines, CS2023**, were completed on time and on budget in December 2023. The final guidelines were approved by the ACM Education Board during its annual meeting in January 2024 and endorsed by collaborating societies IEEE-CS (the IEEE Computing Society) in January 2024 and AAAI (Association for the Advancement of AI) in February 2024. The final guidelines were published in the ACM Digital Library in May 2024: <u>Computer Science Curricula 2023 | ACM Other Books</u>.

The **2023** Learning at Scale Conference ("L@S") took place July 20, 2023, in Copenhagen, Demark, at the University of Copenhagen, marking the third time the conference was held outside of the United States since its launch in 2014. Due to a somewhat subpar co-location (there were no joint events) resulting in lower registration than usual (~90 people, all in person), and a very challenging year for fundraising, the conference did not meet the projected budget. However, the response was very positive and for the first time, very young startups participated. The 2023 Proceedings are open:

https://dl.acm.org/doi/proceedings/10.1145/3573051.

**EngageCSEdu** completed its evolution to be fully integrated with the ACM Digital Library and aligned with the ACM Publications Board. EngageCSEdu published 3 Special Issues (HCI Education, AI Education, Responsible Computing) and 2 regular issues during FY24. New Editors-in-Chief were appointed by the Ed

Board Co-Chairs and approved by the Pubs Board effective December 1, 2023.

The **ACER Taskforce** published its report of the 2021-22 enrollment cohort in the December 2023 edition of ACM *Inroads*. The report was quoted in a January 2024 story about Data Science in *Inside Higher Education*.

Looking ahead, the Ed Board and EAC also offer this **preview of FY25**:

At the annual EAC meeting (August 2024), **computing education reports from around the world** were presented, including Europe (via the ACM Europe Education Committee), Uganda, India, Brazil, Singapore, and CSTA (USA). An Ed Board Exploratory Working Group presented an investigative report for the Ed Board and EAC on **AI in computing education**, resulting in the launch of an exploratory working group with a similar focus. The **ACER Taskforce expanded**, and new efforts focusing on **Data Science** and **Living Curriculum** kicked off. Also, many organizations, including CSTA and CSAB, and ACM SIGs reported on their computing education activities, including SIGCSE, SIGITE, SIGGRAPH, SIGCHI, SIGHPC, and SIGCAS.

#### 1. BASIC INFORMATION

#### 1.1 Members and Terms

# **Education Board**

Co-Chair Elizabeth K. Hawthorne (7/20-6/24)
Co-Chair Alison Derbenwick Miller (7/22-6/24)

Vice ChairBriana Morrison (1/24-6/24)Past ChairChris Stephenson (7/20-6/24)

Past Chair Emeritus, Advisor

Members

Jane Prey (7/20-6/24)

Diana Burley (7/21-6/24)

Tom Cortina (11/22-6/24)

Judith Gal Ezer (11/22-6/24)

Amruth Kumar (11/22-6/24) Paul Leidig (11/22-6/24)

Andrew McGettrick (11/22-6/24)
Briana Morrison (11/22-1/24)
Fay Cobb Payton (11/22-6/24)
Susan Reiser (11/22-6/24)
Mihaela Sabin (11/22-6/24)
Cara Tang (11/22-6/24)

ACM Headquarters Yan Timanovsky

Ex-Officio Jake Baskin (CSTA Executive Director)

**Education Advisory Committee** 

Megan Bowen (7/22-6/24) Salem Academy Charter School, United States

Leigh Ann Delyser (7/21-6/24) CSforAll, United States

Ellen Hause (7/22-6/24) American Association for Community Colleges, United

States

Rodrigo Duran (SIGCSE appt) Federal Institute of Education, Science and Technology

of Mato Grosso do Sul, Brazil

Markus Geissler (7/22-6/25) Cosumnes River College, United States Itana Maria Gimenez (SBC appt) Universidade Estadual de Maringá, Brazil

Michelle Trimm (SIGCAS appt) University of Massachusetts at Amherst, United States

Steve Gordon (SIGHPC appt)

The Ohio State University, United States

David Joyner (7/21-6/24) Georgia Institute of Technology, United States
Matthias Hauswirth (SIGPLAN appt) Università della Svizzera italiana, Switzerland

Allyson Knox (7/22-6/24) Microsoft, United States

Alvaro Monge (7/23-6/26) Northeastern University, United States

Joyce Nakatumba-Nabende (6/23-7/26) Makerere University, Uganda

Tamara Pearson (7/21-6/24) Georgia Institute of Technology, United States
Mihaelsa Sabin (CSAB appt) University of New Hampshire, United States
Christian Servin (7/21-6/24) El Paso Community College, United States
Venky Shankararaman (7/22-6/25) Singapore Management University, Singapore

Olivier St-Cyr (SIGCHI appt) University of Toronto, Canada

Jodi L. Tims (ACM-W appt)

Northeastern University, United States

Cindy Tucker (7/23-6/26) Bluegrass Community and Technical College, United

**States** 

Ellen Walker (7/21-6/24) Hiram College, United States

Stuart Zweben (NDC appt) The Ohio State University, United States

**EAC Advisors (FY24)** 

Alison Clear CC2020; Eastern Institute of Technology, New Zealand

Robert Schnabel ECE Task Force; University of Colorado, Boulder,

**United States** 

#### 1.2 Education Board and EAC Purpose

- To improve the teaching and learning of computer science.
- To launch, approve, disseminate, and update relevant ACM curricular documents.
- To serve as a forum for collaboration and knowledge sharing among ACM groups working in computer science education.
- To form and oversee task forces addressing issues deemed important to ACM's education efforts or the wider computer science education community.

#### 1.3 Education Board and EAC Projects and Task Forces

- CC2020 Supplemental Visualization Tool Project. ACM Chair: Alison Clear
- CS2023 Curriculum Project. ACM Co-Chair: Amruth Kumar
- CSEC2017 Assessment & Foundations Supplement Project. Chair: Cara Tang
- ACM2Y Project. Chair: Cara Tang

- Actionable Computing Enrollment and Retention (ACER) Taskforce. Chair: Stuart Zweben
- Al in Computing Education Exploratory Working Group. Co-Chairs: Judith Gal-Ezer and Andrew McGettrick
- Standing Committee for Computing Education in Community Colleges (CCECC). Chair: Marcus Geissler
- Data Science Competencies Project. Co-Chairs: Maureen Doyle and Paul Leidig
- DEI in Computing Education Taskforce (DEI-CE). Co-Chairs: Fay Cobb Payton and Susan Reiser.Education in Ethics and Computing (EEC) Taskforce. Chair: Bobby Schnabel
- Learning@Scale Conference. Chair: René Kizilcec (David Joyner reports to EAC)
- Nominations Committee. Chair: Chris Stephenson
- Resources for Instructors to Improve Teaching and Peer Mentoring Practices (EngageCSEdu).
   Co-chairs: Brian O'Neill and Olivier St-Cyr
- NSF-Funded Future of Post-Secondary Computer Science Education White Paper (CRA Collaboration). Chair: Jane Prey

# 2. SUMMARIES, ACTIVITIES AND COMPLETED MILESTONES (FY24)

# CS2023 Curriculum (Project)

**Purpose:** Development of the ACM 2023 Computer Science Curriculum (CS2023), a multi-year joint project with IEEE-CS and AAAI collaborators and wide input from the global CS education community. CS2023 is a revision to the most current Computer Science Curriculum guidelines (CS2013).

Starting Date: July 2021

**Status**: Completed. Final version published in May 2024. See <u>CS2023 – ACM/IEEE-CS/AAAI Computer</u> Science Curricula. Publicity will continue in FY25, partially funded by IEEE-CS.

# Milestones:

- Published on ACM website and ACM Digital Library, with 11,000+ downloads to date.
- Endorsed by ACM Education Board, IEEE-CS, and AAAI.
- Available in English and Spanish.
- Publicized at ITiCSE 2024 (Milan, Italy), SIGCSE 2024 (Portland, Oregon, US), Eurographics 2024 (Limassol, Cyprus), and EAAI 2024 (Vancouver, British Columbia, Canada).
- Articles on Curricular Practices currently under review by ACM *Inroads* on accessibility, computing for social good, CS in liberal arts, role of formal methods, and quantum computing.
- Featured in *IT Brew*, highlighting new focus in CS2023 on computing ethics: Why Prof. Amruth Kumar wants to make ethics 'unavoidable' in computer science (itbrew.com)

#### CC2020 Supplemental Visualization Tool (Project)

**Purpose:** Development of an online application that enables stakeholders to assign minimum and maximum values to each of the topic areas required in their degree programs, and then visualize their programs against the current ACM/IEEE-CS approved curricula and other degree programs globally. **Starting Date:** July 2021.

Status: Completed (July 2024).

#### Milestones:

- Completed v2 of the Data Science curriculum report review and updated the visualization tool (Viztools) to include Data Science in partnership with Texas A&M University.
- Incorporated Data Science (DS2021) and Information Systems (IS2020).
- Updated graphics with Robert Gordon University.

#### CSEC 2017 Assessment & Foundations Supplement (Taskforce)

Purpose: Review the CSEC 2017 curricular guidelines and make recommendations for updates to the essential body of knowledge underpinning foundational collegiate level courses in cybersecurity and upper-level high school offerings in cybersecurity (akin to AP curricular content), and to align this content with industry needs for entry-level cybersecurity positions.

Starting Date: January 2023

Status: Ongoing, expected completion H1CY25

#### Milestones:

- Reviewed all of CSEC2017 content, pulling out what might be appropriate for a foundational cybersecurity course.
- Considered cyber content in other curricular guidelines and entry-level industry certifications (2Y guidelines, CS2023, IT2017, IS2020, CAE KUs, and ISC2-CC (certificate in cybersecurity).
- Crafted learning outcomes appropriate for a foundational cybersecurity course.
- Conducted focus groups (included representatives from Australia, Bangladesh, Norway, Philippines, and the US) and community survey (currently underway).

#### ACM2Y (Ed Board Standing Committee)

**Purpose:** ACM2Y advocates for a diverse group of computing students and educators by building a targeted and resourceful community for faculty of two-year, higher education programs.

Starting Date: July 2021

**Status:** Ongoing **Milestones:** 

- Updated governance policies to provide for nomination and appointment of an ACM2Y executive committee
- 11-member executive committee appointed for 2-year terms, starting July 1, 2023
- Grew to nearly 300 members
- Conference presence at SIGCSE TS 2024 (shared booth with CCECC), SIGITE 2024, CCSC Regional Conferences (Northwest, Rocky Mountain, Southwest, Midwest, Eastern, South Central, Central Plains), WiCyS (Women in Cybersecurity), CAE Symposium and I4CS (Computer Science Conference on Innovations for Community Services).
- Hosted two online events in January 2024 (focused on 2-year curriculum guidelines) and April 2024 (focused on DEI in two-year computing programs); recordings available on ACM YouTube channel.

Hosted BoF at SIGCSE TS 2024 entitled "Two-Year Program Conversations: Supporting a Diversity of Students, Articulation Pathways, and More."

# Actionable Computing Enrollment and Retention (ACER) (Taskforce)

**Purpose:** Source rigorous and reliable data regarding undergraduate CS student retention and produce scholarly papers and presentations to share new information and insights with the CS education community. Deliver and report on an annual national survey of non-doctoral granting, 4-year institutions in Computer Science, Computer Engineering, Information Systems, Information Technology, and Software Engineering. **Starting Date:** July 2021 (Note: the NDC Study, an Ed Board Project now merged with ACER, originated in July 2012)

**Status:** Completed/ongoing.

#### Milestones:

- Published report in December 2023 ACM *Inroads* using National Student Clearinghouse (NSC) data for the 2021-22 enrollment cohort, including associate's and bachelor's enrollment, completions, retention, unretained students who remained in academia, and graduates who studied at the next degree level.
- Signed a 3-year agreement with the NSC for the enrollment, completions, and retention data and received data from NSC for the 2022-23 enrollment cohort (the first year of that agreement).
- Analyzed the 2022-23 enrollment cohort data and submitted a report to ACM *Inroads* in July 2024.
   Publication date is not yet determined, but expected to be before the end of calendar year 2024.
   2023-24 enrollment cohort data is expected by the end of January 2025.
- Looking ahead to FY25, ACER will explore (1) whether the current data and report can be expanded to include data from outside the United States, and (2) whether it is technically and contractually possible to make certain ACER data searchable by the community via a visualization tool.

# Al in Computing Education (Exploratory Working Group)

**Purpose:** Conduct an initial exploration and literature survey to evaluate the landscape of AI in computing education, particularly in the context of generative AI, and make a recommendation to the Ed Board and EAC regarding the establishment of a project or taskforce for further work.

Starting Date: August 2023

Status: Completed (August 2024).

# Milestones:

- Wrote and delivered a report to the Ed Board and EAC including major questions and additional questions that a formal taskforce should evaluate and address.
- Recommended establishment of an Ed Board Taskforce (not yet established, pending further clarifications regarding focus and scope).

# Committee for Computing Education in Community Colleges (CCECC) (Ed Board Standing Committee)

**Purpose:** Serves and supports computing education and educators at associate-degree granting colleges in the United States and similar post-secondary institutions throughout the world.

**Starting Date**: July 1991 **Status:** Ongoing **Activities:** 

- Developing Data Science curriculum guidelines for 2-year colleges and similar institutions (DS2Y202x), based on DS2021. Work is currently on hold in anticipation of work being done in the Data Science Competencies project (see below).
- Developing Computer Science curriculum guidelines for 2-year colleges and similar institutions (CS2Y202x). This curricular volume will leverage content in CS2023. Expect to complete a StrawDog version in December 2024.
- Deliver periodic updates and curricular guidance to computing educators at 2-year institutions.
- Ongoing collaboration with ACM2Y.
- Presented at conferences, including ITiCSE 2023, SIGITE2023 (co-sponsored Community College Reception with ACM2Y), WASTC 2024, SIGCSE TS 2024 (booth with ACM2Y and ACM-W, co-sponsored ABET Community College Reception with ACM2Y), CCSC Regional Conferences (Northwest, Rocky Mountain, Southwest, Midwest, Eastern, South Central, Central Plains), 2024 CAE Symposium.

#### Milestones:

- CS2Y202x launched.
- Completed CS2023 as Steering Committee members.
- Presented poster at ITiCSE 2023 seeking translations of Bloom's for Computing.
- Established collaboration with Universidad del Caribe (Cancun, Mexico).
- Initiated collaboration with CCSE as a Gold Level National Partner (CCSC-ACM2Y-CCECC partnership).

# Data Science Competencies (Project)

**Purpose:** Extend the ACM Computing Competencies for Undergraduate Data Science Curricula by producing a multidisciplinary set of competencies for data science with representatives from computing, statistics, and applied mathematics societies.

Starting Date: March 2024

Status: Underway, with anticipated completion in H1CY26

**Membership:** The initial task force consists of 12 members including two co-chairs, Maureen Doyle and Paul Leidig. Members were appointed by each of the sponsoring societies: the Association of Computing Machinery (ACM), the American Statistical Association (ASA), the Mathematical Association of America (MAA), and the Society for Industrial and Applied Mathematics (SIAM). The co-chairs may recruit additional participants with required expertise.

#### **Activities:**

• Currently developing list of knowledge areas and subtopics that incorporates different disciplinary views of what should be included in a data science curriculum and the focus of each topic.

#### Milestones:

- Taskforce members recruited and kickoff meeting completed, with standing bi-weekly meetings.
- Outline and abstract being developed, expected completion date in November 2024.
- Expect to be available for public comments in early CY2025.

#### Diversity, Equity and Inclusion in Computing Education (DEI-CE) (Taskforce)

**Purpose:** Work to address DEI issues directly impacting computing education.

Starting Date: July 2020

Status: Completed (December 2023)

**Activities:** 

• Serve as the Ed Board liaison to ACM's Diversity and Inclusion Council.

#### Milestones:

- Organized, publicized, and hosted four community webinars focused on ethics in computing and machine learning, the importance of language in promoting inclusive environments, and the intersection of technology with systemic inequality.
- In concert with the ACM DEI Council, recommended new distinguished speakers for sub-discipline and DEI specialties.
- In concert with the ACM DEI Council, recommended DEI Trainings and/or Learnings across leadership, conferences, global community, and education.

# Education in Ethics and Computing (EEC) (Taskforce)

**Purpose:** Provide a curated set of exemplary ethics resources to assist computing faculty with incorporating ethics content into their curricula/syllabi.

Starting Date: July 2020

**Status:** Completed (June 2024). Remaining website updates (expected completion by the end of CY2024) and ongoing promotion and resource collection will move under EngageCSEdu.

#### Milestones:

- In 2023, completed and published a Special Issue on Ethics in Computing in EngageCSEdu
- Established an Ethics & Computing Repository in EngageCSEdu, see: <a href="https://www.engage-csedu.org/ethics-and-computing">https://www.engage-csedu.org/ethics-and-computing</a>.
- Published companion paper, "OER for Ethics and Computing Open Access Collection." See: https://doi.org/10.1145/3564623.
- Article submission capabilities now available on the Ethics Repo website, managed by EngageCSEdu.

# EngageCSEdu (Education Board Standing Committee)

**Purpose:** Broaden participation in computing by empowering faculty to improve curriculum and pedagogy in computing courses by using evidenced-based practices in instructional materials to promote student engagement and inclusive student culture.

Starting Date: January 2020

Status: Underway

#### Milestones:

- New Co-Editors appointed in December 2023: Brian O'Neill (Quinnipiac University) and Olivier St-Cyr (University of Toronto).
- OERs now published in the ACM Digital Library, with more than 3300 downloads to date. See <u>ACM</u>
   Teaching Materials for Computing.
- Special Issue on Responsible Computing published September 2023, with guest editors Stacy A. Doore
  (Colby College), Ben Rydal Shapiro (Georgia State University), and Ellen Zegura (Georgia Institute of
  Technology). See <u>Special Issue on Responsible Computing: Embedding Principles, Practices & Pedagogies</u>
  | EngageCSEdu (engage-csedu.org).
- Special Issue on AI Education published with guest editors Narges Norouzi (University of California, Santa

Cruz) and Bita Akram (North Carolina State University). See <u>Special Issue on Artificial Intelligence, Data Science</u>, and Machine Learning. | EngageCSEdu (engage-csedu.org).

Special Issue on HCI Education published with guest editors Olivier St-Cyr (University of Toronto) and Craig
MacDonald (Pratt Institute). See <u>Special Issue on Human-Computer Interaction | EngageCSEdu (engagecsedu.org)</u>.

# Learning@Scale Conference (Project)

**Purpose:** Deliver annual conference focusing on large-scale, technology-mediated learning environments that typically have many active learners and few experts on hand to guide their progress or respond to individual needs.

Starting Date: July 2014

Status: 2023 Conference completed; 2024 taking place at Georgia Tech in July 2024.

# Milestones:

- 3<sup>rd</sup> international location for the conference since inception, in Copenhagen, Denmark.
- First conference to include very young startups.
- Challenges with attendance (~90 people, all in person) and fundraising.
- Conference received very positive feedback from attendees.
- Sponsored award given for "Best Undergraduate Research Paper."

# Nominations Committee (Ed Board Annual Standing Committee)

**Purpose:** Establish and support a standard, global, annual open call and process for nominations to the EAC. Make new member appointment recommendations to the Ed Board.

Starting Date: April 2024

Status: 2024 nominations complete. 2025 nomination process will begin in January 2025.

#### Milestones:

- Committee established and nomination document completed and approved (April).
- Online application and nominations process live, with a global call for nominations via ACM CCECC channels, ACM Europe Council, Australasian Computing Education Group, computing groups in Israel, Informatics for All, SIGCSE listserv, and various listservs in South and Central America (May).
- Applications due and reviewed, with recommendations to the Ed Board complete (June).
- Lessons learned and future recommendations report completed (August).

# NSF-Funded Future of Post-Secondary Computer Science Education White Paper (CRA Collaboration) (Project)

**Purpose:** The NSF funded project *Future of Post-Secondary Computer Science Education* seeks to reenvision how to teach computing effectively in a scalable manner focusing on those undergraduate students from groups underserved by traditional computing courses and careers. Computing is a vital part of our society; however, computing education continues to face many challenges around inclusion, diversity, equity, and accessible learning.

**Leadership:** CRA serves as the Principal Investigator and ACM serves as a key partner. Jane Prey is the ACM Education Board representative and the Vice-Chair of the steering committee to this effort.

Starting Date: August 2022

**Status:** Ongoing. Final white paper publication anticipated in H1FY25.

Milestones:

• Convene diverse sets of CISE stakeholders through a series of workshops.

Build consensus around a unified vision of what inclusive computing education is and can be.

# Operating Procedures for the ACM Education Board and Education Advisory Committee (Project)

**Purpose:** Establish and document standard expectations, processes and structures for the Ed Board and EAC, and ensure consistency, continuity, and processes for updates and changes, as chairs and members rotate over time.

Starting Date: December 2023

**Status:** Ongoing, with expected completion in October 2024.

Milestones:

- Initial draft completed and reviewed during January 2024 Ed Board meeting.
- Updated version shared with Ed Board for comments in May 2024.

# 3. FUTURE PLANS (FY25)

#### 3.1 Projects to be Concluded or Taskforces to be Reconstituted in FY25

- CS2023 Curriculum Project: Although the CS2023 project was successfully completed and the final
  version published in May 2024, remaining Curricular Practices articles are still pending with ACM
  Inroads. A publication date has not yet been determined, but it is expected that the final articles will
  be published in FY25. Work to develop a living curriculum model to support future revisions of
  CS2023 will be undertaken by the Living Curriculum Taskforce.
- CSEC2017 Assessment & Foundations Supplement Taskforce: This project is making excellent
  progress and a final report is expected in H1CY25. After the final report is approved, the taskforce
  will sunset.
- NSF-Funded Future of Post-Secondary Computing Education White Paper: This project is making strong progress and a final white paper is expected in H1CY25. After the white paper is published, the project will sunset.
- Operating Procedures for the ACM Education Board and Education Advisory Committee Project: After multiple rounds of review by Ed Board members, a final version was presented to the Ed Board for its review endorsement at the August 2024 meeting. If endorsed (expected October 2024), final approvals from ACM Executive will be requested to ensure consistency with ACM bylaws and processes. Once approved, the Operating Procedures will be adopted and the project will end. Ongoing responsibility for following, maintaining, and updating the Operating Procedures as needed will be with the Ed Board Executive team and ACM Staff Member.

# 3.2 Planned Milestones and Activities in Active Taskforces, Projects, and Committees in FY25

# **ACM2Y Standing Committee**

Update charter.

- Provide a platform for community conversations.
- Continue to grow membership.
- Continue outreach activities: host 2 online events, publish news and articles on ACM2Y website with regular cadence, continue visible presence at relevant conferences.
- Maintain collaborations with CCECC and CCSC.

# **Actionable Computing Enrollment & Retention (ACER) Taskforce**

- Respond to ACM *Inroads* reviewers regarding submitted article to expedite publication.
- Continue to work with the National Student Clearinghouse (NSC) to correct certain errors in their 2022-23 data.
- Receive the 2023-24 enrollment cohort data from NSC; expected delivery in January 2025. Analyze
  data and begin work on annual article for ACM *Inroads*.
- Discuss how similar data from elsewhere in the world can be reported regularly, and if appropriate, integrated with the NSC data collected by ACER to expand future reports to include additional countries. Work led by Judith Gal-Ezer.
- Explore whether it is technically and contractually possible to make certain ACER data searchable by the community via a visualization tool. Work led by Susan Reiser.

# Computing Education in Community Colleges (CCECC) Standing Committee

- Complete CS2y202x by August 2025, with a focus on AI and SEP domains for portability.
- Continue work on DS2y202x as guidance from related undergraduate curricular efforts becomes available.
- Extend global outreach of curricular guidance products and related efforts.
- Attend conferences to market curricular guidance.
- Continue collaborations with ACM2Y, ACM SIGs, and CCSC.

# **Data Science Competencies Project**

- Deliver outline and abstract to EAC in October/November 2024.
- Preliminary public presentation and feedback session at SIAM Conference on Mathematics of Data Science (MDS) in October 2024.
- Presentation of outline and draft report with feedback session at SIGCSE TS in February 2025.
- Targeting Strawdog release in H2CY25.

# **EngageCSEdu Standing Committee**

- Work to establish EngageCSEdu as the go-to place for educators to find a multitude of computing education resources.
- Collaborate with other OER repositories, e.g., Nifty assignments.
- Promote EngageCSEdu through ACM SIGs to expand range of submissions.
- Offer at least 1 special issue. Note ongoing discussions about a Special Issue in sustainability.
- Recruit Associate Editors for different disciplines.
- Improve website and workflow for submissions.

# Learning@Scale Conference

- Co-locate in July 2024 with the Educational Data Mining (EDM) Conference at Georgia Tech in Atlanta, Georgia, with David Joyner as the General Chair.
- Conduct "decadal" survey and analyze data on shared Learning@Scale community research interests
  to better understand what infrastructure is needed, how Learning@Scale can advocate for it, and
  how NSF's Mid-Scale Research Infrastructure program can be leveraged. Waiting on decision from
  NSF on submitted grant funding request to enhance this work.
- Initiate planning for 2025 conference, with expectations it will be co-located with AIED and EDM (Educational Data Mining) in Palermo, Sicily in July 2025.
- Begin planning for 2026, and explore inclusion/co-location with Festival of Learning in South Korea.

# **Nominations Standing Committee**

- Build on work completed in FY24 to continue to refine the global nominations process for the EAC.
- FY25 committee launch in January 2025.
- Move online nomination form and related processes to ACM templates and systems.
- Nominations completed in June 2025.

# 3.3 New Projects and Taskforces Expected in FY25

- ACER Expanded Data Use Exploratory Working Group. This new EWG working under the aegis of
  the ACER Taskforce will explore and report back if/how we can use existing data to more closely
  examine (1) issues of diversity in computing (headed by Tamara Pearson), and (2) recruitment and
  retention in 2-year institutions (headed by Christian Servin).
- Al in Computing Education Exploratory Working Group. Generated by the Al in Education report
  presented to the EAC at its August 2024 meeting, the Ed Board approved formation of an Ed Board
  EWG (chaired by Brianna Morrison) to do a deeper dive into issues of Al in computing education
  and particularly into generative Al and computing education. A report from the EWG is expected in
  December 2024, with potential follow-up actions and taskforces to follow.
- Internationalization Taskforce. At the August 2024 EAC Annual Meeting, the EAC submitted an
  initial proposal to the Ed Board to stand up a taskforce focused on how ACM can "internationalize"
  its presence and impact in computing education. While the initial proposal was not approved, a
  follow up proposal is expected before the end of 2024, and if approved, a taskforce will be
  initiated in H1CY25.
- IT2027 Curriculum Project Kickoff. The SIGITE liaison to the EAC (Christian Servin) advised that SIGITE will be submitting a request to the Ed Board to initiate work on the IT2027 Curriculum Guidelines during FY25. If approved by the Ed Board, timelines and taskforce membership will be determined at that time.
- Living Curriculum Taskforce. The idea of a Living Curriculum taskforce was initiated at the August 2023 EAC meeting to take the significant work required to move from decennial updates to curricular volumes to a living curriculum modality. A chair for the taskforce was named in August 2024 (Alison Clear), and initial taskforce members were identified. The new Living Curriculum

taskforce is expected to leverage the work completed by the StAC taskforce and consider building upon the visualization tool (Viztools) from the CC2020 project; however, the focus, scope, structure, and potential co-chair of the taskforce are still being identified, clarified, and developed. The Ed Board anticipates signing off on the Living Curriculum taskforce at or before its annual meeting in January 2025.

# APPENDIX A - Task Force and Project Memberships

# ACM CS2023 Curriculum (ACM Representatives only)

The CS2023 Curriculum development is managed by a small steering committee, whose ACM members are as follows:

- Amruth Kumar, Ramapo College, US
- Monica Anderson, University of Alabama, US
- Brett Becker, University College Dublin, Ireland
- Richard Blumenthal, Regius University, US
- Michael Goldweber, Denison University, US
- Pankaj Jalote, IIIT-Delhi, India
- Susan Reiser, University of North Carolina Asheville, US
- Christian Servin, El Paso Community College, US
- Titus Winters, Adobe, USA

The partner organizations include IEEE-CS and AAAI that also provide representatives to a joint steering committee. The content development and feedback review processes for CS2023 are carried out by more than 90 additional volunteers in 16 countries. A complete list can be seen here.

# CC2020 Supplemental Visualization Project

• Alison Clear (Chair), Eastern Institute of Technology, Auckland, New Zealand

#### CSEC 2017 Assessment & Foundations Supplement

- Matt Bishop, University of California, Davis, California, US
- Beth Cerrone, High School, US
- Jun Dai, Worcester Polytechnic Institute, Massachusetts, US
- Melissa Dark, DARK Enterprises, US
- Jenny Daugherty, DARK Enterprises, US
- Philip Huff, University of Arkansas at Little Rock, Arkansas, US
- Cara Tang, Portland Community College, Oregon, US
- Cindy Tucker, Bluegrass Community & Technical College, Lexington, Kentucky, US

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- Bill Kerney (Secretary), Clovis Community College, California, US
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- Laura Malave, St. Petersburg College, Florida, US
- Kenyada McLeod, Brightpoint Community College, Virginia, US

- Mary Beth Moore, Potomac State College, West Virginia, US
- Tommy Pollock, Tidewater Community College, Virginia, US
- Tim Preuss, Minnesota State Community & Technical College, Minnesota, US
- Ripal Ranpara, Atmiya University, India
- Bob Tureman, Camp Community College, Virginia, US
- Markus Geissler (CCECC liaison), Cosumnes River College, Sacramento, California, US

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- Judith Gal-Ezer, Open University of Israel, Israel
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- Tamara Pearson, Georgia Tech University, US
- Mihaela Sabin, University of New Hampshire, US
- Christian Servin, El Paso Community College, Texas, US
- Jodi L. Tims, Northeastern University, US
- Cindy S. Tucker, Bluegrass Community & Technical College, Lexington, Kentucky, US
- Mark Weiss, Florida International University, US
- Yan Timanovsky, ACM

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- Judith Gal-Ezer, Open University of Israel, Israel
- Andrew McGettrick, University of Strathclyde (retired), Scotland, UK
- Steve Gordon, The Ohio State University, Ohio, US

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- Cara Tang (Past Chair), Portland Community College, Oregon, US
- Koudjo Koumadi, Prince George's Community College, Largo, Maryland, US
- Pam Schmelz, Ivy Tech Community College-Columbus, Indiana, US
- Cindy S. Tucker, Bluegrass Community & Technical College, Lexington, Kentucky, US

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- Mehran Sahami, Stanford University, California, US
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- Chris Stephenson, Google, US
- Ellen Walker, Hiram College, US
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- Christina Gardner-McCune (former member), University of Florida, US
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- Mikey Goldweber, Denison University, US
- Viraj Kumar, Indian Institute of Science Bangalore, India
- Andrew McGettrick, University of Strathclyde (retired), Scotland, UK
- Mehran Sahami (former member), Stanford University, US
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- Ken Koedinger, Carnegie Mellon University, US
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- Joshua Littenberg-Tobias, GBH, US
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- John Mitchell, Stanford University, US

- Xavier Ochoa, NYU, US
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- Justin Reich, MIT, US
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- Candace Thille Stanford University, US
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- Cindy Tucker, Bluegrass Community & Technical College, Lexington, Kentucky, US

# Operating Procedures for the Education Board and Education Advisory Committee

- Alison Derbenwick Miller, Stanford University and Tabia Health Inc., US
- Beth Hawthorne, Northeastern University, Massachusetts, US
- Briana Morrison, University of Virginia, US
- Yan Timanovsky, ACM Staff, New York, US

# Resources for Instructors to Improve Teaching and Peer Mentoring Practices (EngageCSEdu)

- Michelle Craig (Co-Chair, through November 30, 2023), University of Toronto, Ontario, Canada
- Briana Morrison (Co-Chair, through November, 2023), University of Virginia, US
- Brian O'Neill (Co-Editor-in-Chief starting December 1, 2023), Quinnipiac University, Connecticut, US
- Olivier St-Cyr (Co-Editor-in-Chief starting December 1, 2023), University of Toronto, Ontario, Canada