Approved by the Regents
May 17, 2018

PROMOTION RECOMMENDATION
The University of Michigan
College of Engineering
Department of Electrical Engineering and Computer Science

Emily K. Provost, assistant professor of electrical engineering and computer science, Department of Electrical Engineering and Computer Science, College of Engineering, is recommended for promotion to associate professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering.

Academic Degrees:

Ph.D.	2010	University of Southern California, Electrical Engineering, Los Angeles, CA
M.S.	2007	University of Southern California, Electrical Engineering, Los Angeles, CA
B.S.	2004	Tufts University, Electrical Engineering, Medford, MA

Professional Record:

2012 – present	Assistant Professor, Department of Electrical Engineering and Computer Science, University of Michigan
2011 – 2011	Post-doctoral Research Associate, Signal Analysis and Interpretation Lab (SAIL), University of Southern California, Los Angeles, CA

Summary of Evaluation:

Teaching: Professor Provost is an outstanding instructor. She has taught several offerings of one key undergraduate elective plus a number of special topics courses for senior undergraduates and graduate students. Since 2013, all Q1/Q2 scores have been above 4.0. Professor Provost's undergraduate course materials are of very high quality, provide comprehensive coverage of the material, and are well paced. Student letters note that she treats students as professionals, displays technical mastery, and is a fantastic lecturer. She has supervised five Ph.D. students, two of which have graduated. She has also advised three M.S. students, and directed eight undergraduate projects involving 14 students. Her papers generally include one of her students as the first or second author, speaking to her dedication in training students in original scholarship. Student letters note her positive leadership style, support and guidance in shepherding them through the mentorship process.

Research: Professor Provost is a productive researcher, with a focus at the nexus of computer science and human mental state. She uses the human-computer interface to assess and quantify human emotion and behavior, driven by an overarching goal to develop accurate technology to anticipate and predict human conditions such as disease or behavioral patterns. Professor Provost's research program divides into three threads: emotion classification and characterization, assistive technology for mood tracking, and assistive technology for aphasia. Professor Provost collaborates widely, with researchers spanning multiple disciplines, including several in computer science, mechanical engineering, industrial and operations engineering, atmospheric science, physical medicine and rehabilitation, health management, and psychiatry.

Her publication record includes over 55 papers appearing in refereed venues, over half of which report on research begun here at Michigan. The comments of her reviewers reflect the quality and impact of her research program. Since joining the faculty in 2012, she has been a principal- or co-principal investigator on 12 grants and contracts, including an NSF Career Award, four multi-investigator grants (NIH and NSF), two multi-investigator industrial contracts (Toyota Research Institute and IBM), and four multi-investigator awards from University of Michigan programs (MIDAS, MICHR, and MCubed).

Recent and Significant Publications:

Biqiao Zhang, Georg Essl, Emily Mower Provost, "Predicting the Distribution of Emotion Perception: Capturing Inter-Rater Variability," International Conference on Multimodal Interaction, November 2017.

Duc Le, Keli Licata, Carol Persad, and Emily Mower Provost, "Automatic Assessment of Speech Intelligibility for Individuals with Aphasia," *IEEE Transactions on Audio, Speech, and Language Processing*, Vol: 24, no: 11, November 2016.

Biqiao Zhang, Georg Essl, Emily Mower Provost, "Automatic Recognition of Self-Reported and Perceived Emotion: Does Joint Modeling Help?" International Conference on Multimodal Interaction (ICMI), Tokyo, Japan, November 2016.

Yelin Kim and Emily Mower Provost, "Emotion Recognition During Speech Using Dynamics of Multiple Regions of the Face," *ACM Transactions on Multimedia Computing, Communications and Applications* (ACM TOMM), Special Issue on ACM Multimedia Best Papers, 12:1(article 25), 2015.

Yelin Kim, Honglak Lee, Emily Mower Provost, "Deep Learning for Robust Feature Generation in Audio-Visual Emotion Recognition," International Conference on Acoustics, Speech and Signal Processing (ICASSP), Vancouver, BC, Canada, May 2013.

Service: Professor Provost has been an effective contributor to the department and her external research community. She has been an active, responsible, and exemplary member of the CSE committees on which she has served. She also works with Girls in EECS (gEECS), evidence of her commitment to diversity and a positive climate within the department. She has served as an active organizer and program member for many venues in her research area, and recently become an associate editor for two important journals in her field.

External Reviewers:

Reviewer A: "Prof. Provost is positioned in her academic field as a leader, and is defining her area as she expands it."

Reviewer B: "In my assessment this [her record] demonstrates a very strong independence and leadership in her research, successful research student supervision, as well as very high quality research."

Reviewer C: "Dr. Provost's research in assistive technology for people with Aphasia is groundbreaking."

Reviewer D: "She is a dynamic, energetic, and creative researcher who will continue to make

substantial contributions to the field that will also benefit society as a whole."

Reviewer E: "Overall, Dr. Provost's work on recognition of speaker state from both speech and visual cues represents a very important contribution to multi-modal research."

Reviewer F: "I consider her work in the design of automatic assessment technology for aphasic speech…to be of notable society [sic] impact, and her recent paper on cross-corpus, cross domain emotion recognition using multi-task learning to be very creative …"

Reviewer G: "In a very short time interval Emily has made truly exceptional contributions and game-changing publications in human perception of emotion and automatic emotion recognition …"

Summary of Recommendation: Professor Provost has established a high-impact record of teaching, scholarly research, and service at the University of Michigan. It is with the support of the College of Engineering Executive Committee that I recommend Emily K. Provost for promotion to associate professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering.

Alec D. Gallimore, Ph.D.
Robert J. Vlasic Dean of Engineering
College of Engineering

May 2018