Alec M. Steele

Predictive Analytics and Technologies (PAT) Lab
Department of Electrical & Computer Engineering
The University of Texas at Dallas
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Research Interests

- Digital design, digital signal processing, statistical signal modeling, machine learning, deep learning, image processing.
- Ambulation detection, real-time location systems, wearable biometric sensors.

Education

December 2023	PhD in Electrical Engineering **The University of Texas at Dallas**, Richardson, TX, USA Dissertation: "Ambulation Detection Using Deep Learning and Fiducials"
December 2023	MS in Electrical Engineering **The University of Texas at Dallas**, Richardson, TX, USA
May 2018	BS in Electrical Engineering **University of Wisconsin–Platteville**, Platteville, WI, USA

Research & Work Experience

Present Jan 2019	Graduate Teaching Assistant Department of Electrical and Computer Engineering **The University of Texas at Dallas**
May 2022 Aug 2021	Graduate Research Assistant Department of Electrical and Computer Engineering **The University of Texas at Dallas**
Current Aug 2018	Graduate Researcher Predictive Analytics and Technologies Laboratory Department of Electrical and Computer Engineering **The University of Texas at Dallas**
May 2018 Sep 2017	Student Researcher Pioneer Speech Signal Processing Lab Electrical Engineering Department **University of Wisconsin-Platteville**
May 2018 Sep 2017	Student Lab Assistant Electrical Engineering Department **University of Wisconsin-Platteville**

Awards

2022–2023	Dean's Graduate Teaching Fellowship Erik Jonnson School of Engineering and Computer Science The University of Texas at Dallas
2022	Runner Up – Excellence in Teaching Award Erik Jonnson School of Engineering and Computer Science The University of Texas at Dallas
2020	Excellence in Teaching Award Erik Jonnson School of Engineering and Computer Science The University of Texas at Dallas
2021–2022	Research Assistantship Department of Electrical and Computer Engineering The University of Texas at Dallas
2019–2022	Teaching Assistantship Department of Electrical and Computer Engineering The University of Texas at Dallas

Professional Service

University Service at UT Dallas
Search and Screen Committee, Erik Johnsson School of Engineering, member

Conference Session Co-Chair
IEEE Dallas Circuits and Systems Conference (DCAS) 2020: Oral session "Session 2"
DCAS 2020: Oral Session "Session 4"
DCAS 2020: Oral Session "Session 6"
DCAS 2020: Oral Session "Session 8"

Professional Affiliations (Current)

Institute of Electrical and Electronics Engineers (IEEE) (Student Member 2018–Present)
Order of the Engineer (Inducted May 2018)

Teaching/Academic Experience

2022–*Current*	Graduate Teaching Fellow Erik Jonnson School of Engineering and Computer Science **The University of Texas at Dallas** Course: EPCS 2200 Engineering Projects in Community Service EPCS 3200 Engineering Projects in Community Service II
2019–2022	Graduate Teaching Assistant Department of Electrical and Computer Engineering **The University of Texas at Dallas** Courses: EEDG/CE6302 Advanced Digital Logic (Spring 2022) EEDG/CE6302 Microprocessor and Embedded Systems (Spring 2019–Spring 2020, Fall 2021) EE/CE3201 Electrical and Computer Engineering Fundamentals-I Laboratory (Summer 2019–Fall 2021) EE/CE3320 Digital Circuits (Spring 2021) EE/CE2310 Introduction to Digital Systems (Spring 2019)
2017–2018	Student Lab Assistant Electrical Engineering Department **University of Wisconsin–Platteville** Course: EE3780 Introduction to Microprocessors

Publications

Conference/Workshop Proceedings

1. **A. M. Steele**, M. Nourani, M. M. Bopp and D. H. Sullivan, "A System to Facilitate Early and Progressive Ambulation Using Fiducial Markers," 2021 IEEE Biomedical Circuits and Systems Conference (BioCAS), Berlin, Germany, 2021, pp. 1-6, doi: 10.1109/BioCAS49922.2021.9644648.
2. Z. You, **A. M. Steele**, M. Nourani, M. M. Bopp and D. H. Sullivan, "Ambulation Assessment Using Depth Cameras," *2021 IEEE EMBS International Conference on Biomedical and Health Informatics (BHI)*, 2021, pp. 1-4, doi: 10.1109/BHI50953.2021.9508606.
3. **A. M. Steele**, Z. You, M. Nourani, M. M. Bopp, T. S. Taylor and D. H. Sullivan, "Subject Identification Using a Depth Camera for Patient Ambulation Monitoring," *2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, 2020, pp. 5745-5748, doi: 10.1109/EMBC44109.2020.9176702.
4. **A. M. Steele**, M. Nourani, M. M. Bopp, T. S. Taylor and D. H. Sullivan, "A Multi-Modal Approach to Patient Activity Monitoring," 2020 IEEE International Conference on Healthcare Informatics (ICHI), 2020, pp. 1-6, doi: 10.1109/ICHI48887.2020.9374362.
5. **A. M. Steele**, M. Nourani, M. M. Bopp, T. S. Taylor and D. H. Sullivan, "Patient Activity Monitoring Based on Real-Time Location Data," *2019 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2019, pp. 1244-1246, doi: 10.1109/BIBM47256.2019.8983360.

6. **A. M. Steele**, Z. You, M. Nourani, M. M. Bopp, T. S. Taylor and D. H. Sullivan, "Quantifying Human Activity Using Head Tracking," *2019 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2019, pp. 1247-1249, doi: 10.1109/BIBM47256.2019.8983172.

Lectures/Abstracts/Reports

7. **A.M. Steele**, M. Nourani, M.M. Bopp, T.S. Taylor, D.H. Sullivan, "Using Electrodermal Activity for Automatic Posture Detection", *Poster Presentation*, *2019 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI)*, University of Illinois at Chicago, Chicago, IL, May 2019.

8. **A.M. Steele**, B. Dane, D. Ababio, M. Habibi, "Automated Parking Lot Vacancy Detection", *Invited Talk*, Common Council of the City of Platteville, Platteville, WI, May 2018.

9. **A.M. Steele**, T.J. Millis, James Pelegrin, H. Bořil, "Automatic Speech Activity Detection and Pitch Tracking in Audio Streams", *Poster Presentation*, *Engagement Grant Poster Session*, University of Wisconsin–Platteville, April 25, 2019.

10. **A.M. Steele**, T.J. Millis, Daniel Erickson, H. Bořil, "Speech Activity Detection", *invited talk*, Center for Robust Speech Systems, The University of Texas at Dallas, November 29, 2017.