EURA E. SHIN

eurashin.github.io

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EDUCATION

Bachelor of Engineering, Computer Science (expected Fall 2019) — University of Kentucky
3.95/4.0 GPA, minor in mathematics and honors program — Lexington, KY

ACADEMIC EXPERIENCE

Jun 2019 – Aug 2019

Robotics and Autonomous Systems (NSF REU)
University Southern California — Los Angeles, CA — Assistant Professor Stefanos Nikolaidis
Tools used: ROS, C++
- Developed robot strategies to support stroke patients in performing Assisted Daily Living (ADL) tasks

Dec 2017 – Present

Undergraduate Research Assistant
University of Kentucky — Lexington, KY — Assistant Professor Simone Silvestri
Tools used: Python, Arduino, MySQL, R
- Developed user-centric active learning techniques for appliance prediction in an IoT smart outlet
- Mentored student in high school thesis

June 2018 – Aug 2018

Medical Informatics Research Experience for Undergraduates (NSF REU)
DePaul University — Chicago, IL — Professor Daniela Raicu
Tools used: R
- Explored methods of cost reduction in Computer Aided Diagnosis (CAD) systems:
  - Reducing cost and uncertainty using label propagation
  - Using weak supervision to expand expert annotated data
  - Predicting diagnostic difficulty using selective iterative classification

Feb 2018 – May 2018

Ecoinformatics Research, Stouffer Lab
University of Canterbury— Christchurch, New Zealand — Associate Professor Daniel Stouffer
Tools used: C++, Python, Oracle Grid Engine
- Compared ecological communities using network alignment
- Wrapped C++ software to be used in python, added functionality for fixing nodes and weighted graph alignment

May 2017 – Dec 2017

Firmware Engineering Intern
Lexmark International — Lexington, KY
Tools used: Python, C++, Git, Hostapd, Bitbake
- Developed a new test suite for wireless connectivity testing using virtual access points
- Winning project of annual Lexmark Student Symposium with 20+ posters on display (below)

May 2016 – Aug 2016

Research Internships in Science and Engineering (DAAD RISE)
Computational Modeling Research Intern
Karlsruhe Institute of Technology — Karlsruhe, Germany — Professor Olaf Dossel
Tools used: Python, C++, Git, Hostapd, Bitbake
- One of 300 students internationally awarded the DAAD RISE stipend
- Expanded existing software to simulate an episode of atrial firbrillation in a computational model of the heart
- 1st place, undergraduate poster competition, computer/information sciences, KAS 2016 (below)

RESEARCH OUTCOMES

Publications
- Bramon, B., **Shin, E.**, CaraDonna, P., and Stouffer, D. Untangling the seasonal dynamics of plant-pollinator communities. **Under review** at Ecology Letters 2020).
- **Shin, E.**, Berglin, S., Furst, J., Raicu, D. (2019, July). Expanding annotated data with informed labels for weak supervision. In International Conference on Data Mining and Pattern Recognition. (accepted for publication, 33% acceptance rate)
- Berglin, S., **Shin, E.**, Furst, J., Raicu, D. (2019, March). Efficient learning in computer-aided diagnosis through label propagation. In Medical Imaging 2019: Computer-Aided Diagnosis (Vol. 10950, p. 109501I). International Society for Optics and Photonics.

Presentations
- **Shin, E.**, Dennler, N., Pocius, R., Zhang, H., Zamani, N., Culbertson, H., and Nikolaidis, S. Robot assisted hair-brushing. Demonstration track at Conference on Neural Information Processing Systems. NeurIPS 2019.

- Tapia, A and **Shin, E**. (2018) *Fractals as a tool for introducing computer science concepts for K-12 and beyond.* Presented at National Conference on Undergraduate Research. Mentor: Dr. Jerzy Jaromczyk, University of Kentucky.

- **Shin, E**. (2016) *Automated Initiation of Fibrillatory Excitation in Monodomain Simulations.* Presented at Kentucky Academy of Science Annual Meeting. Louisville, KY. Mentor: Dr. Olaf Dossel and MS Axel Loewe, KIT Biomedicial engineering.

- **Shin, E** and Ellis, J. (2015) *The Development of a Computer Program to Simplify Complex Knot Diagrams using Global Moves.* Presented at Posters at the Capitol. Frankfort, KY. Mentor: Dr. Uta Ziegler, WKU Computer Science.

HONORS AND AWARDS

Barry M. Goldwater Scholar	April 2019
Computing Research Association Programming Languages Mentoring Workshop grant	October 2017
1st place Kentucky Academy of Sciences informatics poster competition	September 2016
Singletary Scholar (full-ride scholarship, 20 incoming students/class)	August 2016

LEADERSHIP INVOLVEMENT

Dec 2016 – Dec 2017 | **Founding Vice-Chair**
ACM-W, University of Kentucky Chapter — Lexington, KY
Founding member and interim president of campus chapter. Coordinated all on-campus meetings, organized outreach events, managed collaboration with faculty, and managed social media pages.

Dec 2016 – Dec 2018 | **Volunteer**
Newton's Attic Engineering Camp — Lexington, KY
Assisted in teaching young students engineering skills such as design, manufacturing, and programming through hands on activities.