

Princess Priscilla Lyons CV

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EDUCATION

May 2022	University of Florida, Doctor of Philosophy Major: Electrical and Computer Engineering GPA: 3.52/4.00	Gainesville
Dec 2019	University of Florida, Master of Science in Engineering Major: Electrical and Computer Engineering GPA: 3.52/4.00	Gainesville
May 2017	University of Missouri, Dual Bachelor of Science in Engineering Major: Electrical Engineering, Computer Engineering Minor: Computer Science, Mathematics and Spanish GPA: 3.16/4.00	Columbia

WORK HISTORY

Aug 2017 – Present	University of Florida: Graduate Research Assistant Conducted natural language processing research on multi-lingual datasets to analyze the effects of translation on cross-lingual authorship attribution Conducted research utilizing techniques in machine learning, image processing and pattern recognition Cooperated with a team of researchers from remote universities to develop an underwater environmentally adaptive target characterization and detection system Compared and developed unsupervised and supervised anomaly and target detection methods in synthetic aperture sonar (SAS) imagery Analyzed feature representations of writing style in various languages using machine learning and data analytics techniques	Gainesville, FL
May 2017 – Jul 2017	Lockheed Martin – Space Systems: Software Engineering Intern Cloned and imaged numerous servers with Microsoft Server 2012 Installed and configured various security and software patches for server stations Created a C++ software tool to parse SDAS files of a switch matrix and located errors in the hardware configuration Developed a C++ software tool to parse SDAS files of a switch matrix and return all USB device name, GUIDs and paths to the user	King of Prussia, PA
Jun 2016 – Aug 2016	Lockheed Martin – Space Systems: Software Engineering Intern Collaborated with a team of software engineers on an independent research and development project Developed a C++ driver to interface with a Serial I/O SIO4 board using a RS422 communication standard on a RedHawk Linux real-time operating system Utilized the Hardware-in-the-Loop(HWIL) technique to troubleshoot and perform successful transmissions and receptions of data with a serial I/O SIO4 board for an integrated flight simulation	King of Prussia, PA
Feb 2015 – May 2017	University of Missouri: Undergraduate Research Assistant Researched various machine learning algorithms and techniques Cooperated with a team of interdisciplinary researchers to detect the target signature of HLB infected orange trees in Florida using hyperspectral analysis Conducted experiments on bed-sensor ballistocardiogram signals using Extended Functions of Multiple Instances (eFUMI) algorithm to successfully detect heartbeat signatures resulting in a publication (listed above)	Columbia, MO
Oct 2013 – Feb 2015	University of Missouri Research Reactor: Student Technician Served as a computer assistant for 15 hours per week in computer hardware and desktop support for facility's 100+ employees Imaged numerous company desktop computers, installed necessary Windows applications, and troubleshoot Windows OS and computer hardware problems Worked with a team of 5 technicians to configure facility servers and mandate internet and computer security protocol	Columbia, MO

Sep 2012 – Oct 2013

Performed monthly maintenance on the MURR laptops, desktops and printers throughout the entire facility

University of Missouri – Learning Center: Professional Algebra Tutor

Columbia, MO

Tutored students of different grades for 15 hours per week in intermediate and college algebra

Conducted private study sessions with up to 3 algebra students and assisted in larger walk-in tutoring sessions with fellow tutors

Created algebra examples with problematic solutions in order to clarify algebra concepts

Utilized online resources, such as WebWork and WebAssign, daily to guide students in their algebra schoolwork

PUBLICATIONS

CONFERENCE

P. Lyons, D. Suen, A. Galusha, A. Zare and J. Keller, "**Comparison of prescreening algorithms for target detection in synthetic aperture sonar imagery**," *Proc. SPIE Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXIII*, vol. 10628, pp. 387–394, Apr. 2018. doi: 10.1117/12.2305175

C. Jiao, **P. Lyons**, A. Zare, L. Rosales and M. Skubic, "**Heart beat characterization from ballistocardiogram signals using extended functions of multiple instances**," *2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Orlando, FL, 2016, pp. 756-760. doi: 10.1109/EMBC.2016.7590812

JOURNAL

C. Jiao, B. Su, **P. Lyons**, A. Zare, K. C. Ho and M. Skubic, "**Multiple Instance Dictionary Learning for Beat-to-Beat Heart Rate Monitoring From Ballistocardiograms**," in *IEEE Transactions on Biomedical Engineering*, vol. 65, no. 11, pp. 2634-2648, Nov. 2018. doi: 10.1109/TBME.2018.2812602

PRESENTATIONS

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| 2019 | Oral presentation "Anomaly and Target Detection in Synthetic Aperture SONAR," University of Florida, Department of Electrical and Computer Engineering , Masters Thesis |
| 2018 | Oral presentation "Comparison of prescreening algorithms for target detection in synthetic aperture sonar imagery," Society for Optics and Photonics (SPIE) Defense + Commercial Sensing |
| 2016 | Poster presentation "Heart beat characterization from ballistocardiogram signals using extended functions of multiple instances," 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) |

HONORS AND AWARDS

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| Fall 2020 | GEM Full Science Fellowship |
| Aug 2017 – Dec 2019 | University of Florida Graduate Assistantship |
| May 2017 | University of Missouri Honors Scholar |
| Aug 2016 | University of Missouri, Boeing Scholarship |
| May 2016 | University of Missouri, College of Eng., Celebration of Women in Engineering Honoree |
| Aug 2011 – May 2017 | University of Missouri Diversity Award |
| Fall '14, Fall '16 | University of Missouri Dean's Lists |

LEADERSHIP

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| Fall '16 – Fall '17 | Treasurer - Institute of Electrical and Electronics Engineers (IEEE) |
| Fall '15 – Fall '16 | Secretary - Institute of Electrical and Electronics Engineers (IEEE) |
| Fall '14 – Fall '15 | Student Ambassador – Univ. of Missouri College of Engineering Ambassadors |

MEMBERSHIPS

2014 – Present	Griffiths Leadership Society of Women
2013 – Present	National Society of Black Engineers (NSBE)
2013 – Present	Institute of Electrical and Electronics Engineers (IEEE)
2013 – Present	Association for Computing Machinery (ACM)
2012 – Present	Mizzou Collegiate Scholars

- INROADS Internship Candidate
- University of Missouri-Columbia Dean's List Fall 2014
- Griffiths Leadership Society Collegiate Member (2014-Present)
- University of Missouri Engineering Ambassador (2014-Present)
- National Society of Black Engineers (2012-Present)
- Mizzou Collegiate Scholar (2012-Present)
- National Youth Leadership Forum Alumni (2012)
- U.S DoD Secret Security clearance (1/2017)
- University of Missouri, Celebration of Women in Engineering Honoree 2016
- University of Missouri Dean's List Fall 2014 & 2016
- Mizzou Institute of Electrical & Electronics Engineers (IEEE) Secretary (2016-Present)
- Griffiths Leadership Society Collegiate Member (2014-Present)
- Mizzou Collegiate Scholar (2012-Present)
- National Society of Black Engineers (2012-Present)
- University of Missouri Engineering Ambassador (2014-2015)

INROADS Scholar Alumni, Griffiths Leadership Society of Women, National Society of Black Engineers (NSBE), Institute of Electrical and Electronics Engineers (IEEE), Association for Computing Machinery (ACM), Mizzou Collegiate Scholars

University of Florida Graduate Assistantship, University of Missouri Honors Scholar, University of Missouri - College of Eng. - Celebration of Women in Engineering Honoree, University of Missouri Diversity Award, University of Missouri Dean's List