

# Princess Priscilla Lyons CV

3611 SW 34<sup>th</sup> Ave, Apt. 53, FL 32608 | 312.208.3275 | plyons@ufl.edu

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## EDUCATION

- Aug 2017 – Dec 2019 **University of Florida, Master of Science in Engineering** Gainesville  
Major: Electrical and Computer Engineering  
GPA: 3.5/4.00
- Aug 2011 – May 2017 **University of Missouri, Dual Bachelor of Science in Engineering** Columbia  
Major: Electrical and Computer Engineering  
Minor: Computer Science, Mathematics and Spanish  
GPA: 3.19/4.00

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## WORK HISTORY

- Aug 2017 – Present **University of Florida: Graduate Research Assistant** Gainesville, FL  
Conducted research utilizing techniques in machine learning, image processing and pattern recognition  
Compared unsupervised and supervised anomaly and target detection methods in synthetic aperture sonar imagery  
Analyzed feature representations of writing style in various languages using machine learning and data analytics techniques
- May 2017 – Jul 2017 **Lockheed Martin – Space Systems: Software Engineering Intern** King of Prussia, PA  
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
- Jun 2016 – Aug 2016 **Lockheed Martin – Space Systems: Software Engineering Intern** King of Prussia, PA  
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
- Feb 2015 – May 2017 **University of Missouri: Undergraduate Research Assistant** Columbia, MO  
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)
- Oct 2013 – Feb 2014 **University of Missouri Research Reactor: Student Technician** Columbia, MO  
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  
Performed monthly maintenance on the MURR laptops, desktops and printers throughout the entire facility
- Sep 2012 – Oct 2013 **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

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## 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

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## PRESENTATIONS

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

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## HONORS AND AWARDS

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| Fall '14, Fall '16  | University of Missouri Dean's List   |
| May 2016            | University of Missouri, College of Eng., Celebration of Women in Engineering Honoree |
| Aug 2011 – May 2017 | University of Missouri Diversity Award   |
| Aug 2017 – Dec 2019 | University of Florida Graduate Assistantship   |

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## LEADERSHIP

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

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## MEMBERSHIPS

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| 2012 – 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                               |
| 2014 – Present | Griffiths Leadership Society of Women (2014-Present)     |
| 2015 – Present | INROADS Scholar Alumni                                   |