

**Mailing:** 3009 SW Archer Rd G12, Gainesville, FL, 32608

## Education:

### University of Florida

Doctor of Philosophy, Electrical and Computer Engineering

Gainesville, FL

06/17-present

Research Interest: Machine Learning, Deep Learning, Pattern Recognition, Computational Intelligence, Computer Vision, Image Processing

### University of Florida

Master of Science, Electrical and Computer Engineering

Gainesville, FL

06/17-12/19

Related Coursework: Fundamentals of Machine Intelligence, Math for Intelligent Systems, Machine Learning, Foundations of Digital Signal Processing, Image Processing and Computer Vision

### University of Alabama at Birmingham

Bachelor of Science, Electrical Engineering (minor in Mathematics), Magna Cum Laude

Birmingham, AL

08/13-04/17

## Research Experience:

University of Florida Machine Learning and Sensing Laboratory

Gainesville, FL

**Research Assistant** Electrical and Computer Engineering Department (Dr. Alina Zare)

06/17-present

- Developing automated machine learning approaches for seafloor segmentation and scene understanding
- Designing and implementing novel deep learning layers focused on texture analysis

Michigan State University Summer Research Opportunities Program (SROP)

East Lansing, MI

**Summer Intern** Electrical and Computer Engineering Department (Dr. Hayder Radha)

05/16-07/16

- Participated in a 10-wk residential program for students interested in graduate study
- Attended a week-long short course in statistics and R Studio software
- Investigated various software packages in Linux utilizing the integrated development environment (IDE) Eclipse and C++ language
- Utilized multiple datasets to develop an improved algorithm for lane detection

University of Alabama at Birmingham Signal Processing and Embedded Systems Laboratory Birmingham, AL

**Research Assistant** Electrical and Computer Engineering Department (Dr. Abidin Yildirim) 01/14-12/16

- Applied practical applications of circuit theory and soldering techniques
- Performed image processing techniques for a project that involved topics such as facial detection and recognition
- Worked with Arduino software that was implemented to various technologies such as a robotic arm, sensors, and Bluetooth
- Designed and interpreted circuit diagrams to properly implement hardware designs

## Publications:

1. **J. Peeples**, M. Cook, D. Suen, A. Zare, and J. Keller, "Comparison of Possibilistic Fuzzy Local Information C-Means and Possibilistic K-Nearest Neighbors for Synthetic Aperture Sonar Segmentation " in Proc. SPIE 11012, Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXIV, 2019.
2. A. Starke, J. McNair, R. Trevizan, A. Bretas, **J. Peeples**, and A. Zare, "Toward Resilient Smart Grid Communications using Distributed SDN with ML-Based Anomaly Detection" in 16th International Conference on Wired & Wireless Internet Communications, 2018.

3. **J. Peeples**, D. Suen, A. Zare, and J. Keller, "Possibilistic fuzzy local information C-means with automated feature selection for seafloor segmentation" in Proc. SPIE 10628, Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXIII, 2018.

## Presentations:

1. Oral presentation "Comparison of Possibilistic Fuzzy Local Information C-Means and Possibilistic K-Nearest Neighbors for Synthetic Aperture Sonar Image Segmentation," **Society for Optics and Photonics (SPIE) Defense + Commercial Sensing**, 2019.
2. Oral presentation "Histogram Layer: A Novel Approach to Feature Engineering," **McKnight Doctoral Mid-Year Meeting**, 2019.
3. Oral presentation "Possibilistic Fuzzy Local Information C-Means with Automated Feature Selection for Seafloor Segmentation," **Society for Optics and Photonics (SPIE) Defense + Commercial Sensing**, 2018.
4. Oral presentation "Synthetic Aperture SONAR Soft Segmentation using Possibilistic Fuzzy Local Information C-Means," **University of Florida Water Institute Symposium**, 2018.
5. Poster presentation "Using the Engineering Force: BHAMSolo Senior Design Project" **University of Alabama at Birmingham Spring Expo**, 2017 (placed 1<sup>st</sup> in Service-Learning category and served as Team Lead for the project).
6. Poster presentation "LIVE ON: Lane, Sign, and Vehicle Detection in Various Environments," **Emerging Researchers National (ERN) Conference in STEM**, 2017 (Travel Award recipient).

## Teaching and Outreach Activities:

University of Florida Electrical and Computer Engineering Department Gainesville, FL  
**Event Coordinator** Diversity and Inclusion (D&I) Effort 07/20-present

- Assisting D&I committee to improve diversity in department through events (i.e., Forums)
- Manage communication and documentation for efforts (i.e., surveys, registration for events)

University of Alabama at Birmingham School of Engineering Birmingham, AL  
**Mentor** Young Alumni Mentorship Program 07/20-present

- Provide academic guidance, career advice and personal development to current UAB student(s)
- Maintain regular contact with mentee through two monthly, virtual meetings
- Presented in UAB Engineering Young Alumni Series - Design Your Engineering Career

University of Florida Office of Graduate Diversity Initiatives Gainesville, FL  
**Peer Advisor** Board of Education (BOE) Summer Fellowship Program 07/20-08/20

- Served as mentor for incoming minority graduate students
- Assisted in planning and leading program events with other Peer Advisors and Program Coordinator
- Lead group of seven engineering students and documented their progress through weekly reports

University of Florida Electrical and Computer Engineering Department Gainesville, FL  
**Supervised Teacher** EEL 5840/4930 Fundamentals of Machine Learning 08/19-12/19

- Updated lecture notes and held weekly office hours
- Assisted in the preparation and grading of assignments and exams
- Participated in weekly meetings with instructor team

Successful Transition and Enhanced Preparation for Undergraduates Program (STEPUP) Gainesville, FL  
**Course Co-Instructor** Introduction to Coding and Programming 07/19-08/19

- Led lectures to introduce core concepts for programming and Python
- Developed course syllabus, assignments, and project

**Course Co-Instructor** Machine Learning 07/18-08/18

- Led lectures to introduce machine learning and remote sensing

**Mentor**

06/19-07/19

- Supervised high school student participant throughout research project
- Assisted and provided feedback for program deliverables (paper, poster, and presentation)
- Tyler Kim (mentee) won SSTP best paper award

University of Alabama at Birmingham Vulcan Material Academic Success Center

Birmingham, AL

**Supplemental Instruction (SI) Leader** Calculus based Physics II

01/15-04/15

- Created an intensive learning environment for undergraduate students by hosting two weekly SI sessions (75 minutes per session)
- Constructed weekly worksheets and mock exams to prepare students for class
- Maintained a constant interaction with the professor to properly align supplemental materials with the course information and requirements

**Tutor** Electrical circuits, Mathematics and Physics

08/14-04/17

- Assisted students in difficult subjects by working through conceptual and quantitative problems
- Led approximately 10 one-hour sessions per week with undergraduates
- Participated in training sessions to become an Associate in the Tutoring Profession (ATP) certified Associate Tutor

**Awards:****Undergraduate total:** \$30,000    **Graduate total:** \$495,910    **Grand total:** \$525,910

Electrical and Computer Engineering Dr. Joseph S. Rosko Award

09/20-present

National Science Foundation Graduate Research Fellowship

09/18-present

National Science Foundation External Award Top Up

09/18-present

Florida Education Fund McKnight Doctoral Fellowship

08/17-present

Graduate School Preeminence Award

08/17-present

Southern Regional Education Board Institute on Teaching and Mentoring Travel Award

10/18-10/20

Iva and Norman Tucker University of Florida Transportation Institute Fellowship

08/17-12/17

University of Florida Board of Education Summer Fellowship

06/17-08/17

Vulcan Materials Scholarship

08/13-04/17

Diversity Supplement Undergraduate Scholarship

08/13-04/17

Collegiate Honors Scholarship

08/13-04/17

School of Engineering Dupuis Leadership Scholarship

08/16-04/17

Cleo and Clara Thomas Academic Scholarship for Excellence

01/16-04/16

The Birmingham Chapter of the American Association of Blacks in Energy Scholarship

08/13-04/14

UAB Dean's List

Spring '14,'15

UAB President's List

Fall '15, Spring '16

Recipient of BMEN Green Blazer of Excellence

Fall '16, Spring '17

Commitment to Excellence in Tutoring

Spring '17

Multicultural Scholars Honor Program

Spring '16

Multicultural Scholars Program Scholar of the Year

Spring '16

Spring '15

**Professional Service:****Conference and Journal Reviews:****Geoscience and Remote Sensing Letters**, Spring 2019, Spring 2020, Summer 2020**Conference Roles:**Panel Chair – Computer Science Panel **2019 McKnight Doctoral Mid-Year Meeting**, February 2019

## Leadership Experience:

African-American/Africans/African Diaspora in ECE (A3ECE) Gainesville, FL  
08/20-Present

### **President**

- Lead organization that provides community and support for Black undergraduate and graduate students in the ECE department

Machine Learning and Sensing Laboratory (MLSL) Gainesville, FL  
08/20-Present

### **Social Media Manager**

- Maintain the lab's Twitter and Facebook accounts to raise awareness of MLSL

**Outreach Coordinator** 08/19-07/20

- Created and organized opportunities to share the MLSL's research with others in the community (i.e., STEPUP, SSTP, laboratory tours)

**Departmental Representative** 08/17-07/19

- Served as liaison between the ECE department and the MLSL

Electrical and Computer Engineering Graduate Student Organization (ECE GSO) Gainesville, FL  
04/19-04/20

### **Secretary**

- Recorded meeting notes and oversaw calendar of events
- Maintained listserv and reserve spaces for all activities of the ECE GSO

**Faculty and Staff Social Liaison** 01/18-04/18

- Planned social events to promote community in the ECE department
- Chaired the Faculty/Staff Mixer event and Graduate Volleyball team

Gator McKnights Unite (GMU) Gainesville, FL  
04/18-04/19

### **President**

- Led graduate student organization responsible for providing personal and professional development opportunities for African American and Latinx graduate students
- Organized monthly executive board meetings and regulate the general functioning of the executive board and organization

Institute of Electrical and Electronics Engineers (IEEE) Birmingham, AL  
06/16-04/17

### **UAB Chapter Vice Chair**

- Assisted the Chapter Chair in following up on assigned committee responsibilities
- Performed all functions of the Chapter Chair in their absence or upon request

UAB School of Engineering Leadership Scholar Birmingham, AL  
06/16-04/17

- Led tours of the engineering building for prospective students
- Participated in several events throughout the year such as recruitments, award ceremonies and meetings

Multicultural Scholars Program (MSP) Birmingham, AL  
08/14-04/17

### **UAB Chapter President**

- Coordinated the activities of the executive committee, which includes oversight of the duties of executive committee members
- Served as the liaison between the executive body and the MSP director
- Served as co-Chair of the scholarship committee

Blazer Male Excellence Network (BMEN)

Birmingham, AL

**Mentor**

08/14-04/17

- Served as a role model, counselor, and motivator for incoming freshmen Black male students

## Memberships:

Association for Computing Machinery (ACM)

04/18-present

National Society of Black Engineers (NSBE)

08/17-present

Order of the Engineer

04/17-present

Institute of Electrical and Electronics Engineers (IEEE)

02/16-present

National Society of Leadership and Success (NSLS)

04/15-present