TZOFI KLINGHOFFER

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EDUCATION

MIT Advanced Study Fellow **Sept. – Dec. 2018**
Massachusetts Institute of Technology, Professional Education, Cambridge, MA
Coursework: Fall 2018 Advances in Computer Vision (Grade: A)

Bachelor of Science in Computer Science, *summa cum laude (GPA: 3.97 / 4.00)* **2018**
The University of Alabama, College of Engineering, Tuscaloosa AL
Minors: Chinese; Social Innovation and Leadership; Certificate in Global Studies

PROFESSIONAL EXPERIENCE

MIT Lincoln Laboratory, Lexington, MA **May 2018 – Present**
Assistant Technical Staff

- Develop deep learning and computer vision methods for national security
- Projects include implementation of: AutoML architecture selection framework; synthetic training imagery generation pipeline; fully-convolutional image dehazing deep learning model

MIT Sea Grant Program, Cambridge, MA **May – Aug. 2017**
Research Intern

- Applied computer vision to automate fishery stock assessments (93% fish detection accuracy obtained)
- Presented findings at the 2017 NOAA Science and Education Symposium, Silver Spring, MD

Lockheed Martin Corporation, Littleton, CO **May – Aug. 2016**
Space Systems: College Student Tech. Sr.

- Development of DXL scripts to manage DOORS requirements and create metrics reports
- Restructuring of memory and sorting algorithms to decrease run time of data extraction tool (VBA)
- Generalization of DXL code & implementation of Version Control and Doxygen to increase reusability

Jacobs Technology, Nashua, NH **June – Aug. 2014; May – Aug. 2015**
Software Development & Test Intern

- Upgraded internal and user-end automated testing of U.S. Air Force airdrop software (VB .NET)
- Expanded code functionality to perform with multiple aircrafts and payloads (C#)

TECHNICAL KNOWLEDGE

Primary: Python, C, PyTorch, Keras, Tensorflow, GIT, SQL, MongoDB, Elastic, Linux, Windows
Secondary: Java, C++, Visual Basic, HTML, DXL, DOORS, .NET, Perforce, VMWare

CONFERENCE PAPERS AND PRESENTATIONS

T. Klinghoffer, P. Morales, L. Brattain, and K. Cheung, "Self-Supervised Feature Extraction for 3D Dense Axon Tracing," In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops, 2020. **[Submission in progress.]**

T. Klinghoffer, D. Chavez, L. Brattain, "Volumetric Segmentation for Dense Axon Tracing," presented at Recent Advances in Artificial Intelligence for National Security (RAAINS), MA, 2019.

P. Morales*, T. Klinghoffer*, and S. J. Lee, "Feature Forwarding for Efficient Single Image Dehazing," In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops, 2019. **[* Equal contribution.]**

C. Ancuti, et al., "NTIRE 2019 Image Dehazing Challenge Report," In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops, 2019.

T. Klinghoffer, C. Perez, R. Vincent, P. Perdikaris, and C. Chryssostomidis, "Applying Image Recognition to Enhance Fisheries Management Capabilities," presented at American Meteorological Society's 17th Conference on Artificial and Computational Intelligence and its Applications to the Environmental Sciences, Austin, TX, 2018. **[Student Research Award, 3rd Place.]**

RESEARCH AND OTHER PROJECTS

Research Assistant – Brown University HCI Group **June 2019 – Present**

- Integrating deep learning methods for face and eye detection into the WebGazer eye tracking platform
- Investigating methods for detecting human inattention through gaze

Research Assistant – UA Human Technology and Interaction Lab **August 2017 – May 2018**

- Developed IRB proposal for experiment to test use of brain-computer interfaces to adapt robot GUIs

Research Assistant – UA Digital Forensics & Control Systems Security Lab **January 2017 – May 2018**

- Applied object recognition to detect license plate numbers from blurred security camera footage
- Completed literature review on current state of traffic control system security

NASA STTR Grant Proposal **August 2016 – May 2017**

- Developed grant proposal for research partnership between The University of Alabama and Red Canyon Software of Denver, CO for automated robotic construction of planetary habitats

TEACHING EXPERIENCE

The University of Alabama Honors College (Instructor) **January – May 2018**

- Course title: "Honors Year One: Programming for Non-Programmers"
- Designed and taught curriculum during the Spring 2018 semester (Topics: Python, CSS, HTML, etc.)

LEADERSHIP AND SERVICE

FIRST LEGO League Coach **September 2019 – Present**

RACECAR Robotics & Python Course Instructor **September 2019 – Present**

The University of Alabama Rotary International House (House Manager) **August 2017 – May 2018**

The University of Alabama Student Judiciary **March 2015 – May 2018**

- Associate Justice; Chair, Documents and Rules Committee

The University of Alabama Men's Rowing Team **August 2016 – May 2017**

TIDE Emergency Medical Services Volunteer EMT **August 2014 – May 2016**

HONORS, MEMBERSHIPS, & ACTIVITIES

2016 National Oceanic and Atmospheric Administration (NOAA) Hollings Scholar; Association for Computing Machinery; Southern Poverty Law Center, UA Chapter (Founding Member)

LANGUAGE PROFICIENCY

Mandarin Chinese (moderate proficiency)