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

Amazon **Aug. 2020 – Present**
Software Development Engineer II, Alexa AI *Cambridge, MA*

- Develop weakly supervised learning methods for entity resolution in Alexa
- Design and implement software services for automated training & evaluation dataset generation

MIT Lincoln Laboratory **May 2018 – Aug. 2020**
Associate Tech Staff, Homeland Protection Group *Lexington, MA*

- Developed machine learning and computer vision methods for national security mission areas
- In collaboration with MIT CSAIL, led computer vision research on segmentation/classification of pathologies in medical images, including x-ray and microscopy, resulting in 3 publications
- Contributed to development and deployment of real-time software systems that improved anomaly detection for critical areas of homeland security by over 600%

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

- 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 **May – Aug. 2016**
Space Systems: Software Engineering Intern. *Littleton, CO*

- 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)

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

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

PAPERS AND PRESENTATIONS

L. Gjesteby, **T. Klinghoffer**, M. Ash, M. Melton, K. Otto, D. Lamb, S. Burke, L Brattain, "Annotation-Efficient 3D U-Nets for Brain Plasticity Network Mapping," In Proceedings of IEEE International Symposium on Biomedical Imaging, 2020. [**Under Review**]

T. Klinghoffer, P. Morales, Y.G. Park, N. Evans, K. Cheung, L. Brattain, "Self-Supervised Feature Extraction for 3D Axon Segmentation," In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops, 2020.

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]**

RESEARCH AND OTHER PROJECTS

Research Assistant – Brown University HCI Group **June 2019 – January 2020**

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

Research Assistant – UA Digital Forensics & Control Systems Security Lab **Jan. 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 **Aug. 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) **Jan. – 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.)

GRANTS

Advanced Concepts Committee (MIT Lincoln Laboratory) – $210k **Oct. 2019 – Sept 2020**

LEADERSHIP AND SERVICE

FIRST LEGO League Coach **Sept. 2019 – Present**

MIT RACECAR Robotics & Python Course Instructor **Sept. 2019 – Present**

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

HONORS AND AWARDS

2020 MIT Lincoln Scholars Fellowship Finalist; 2018 SMART Fellowship Finalist; 2016 National Oceanic and Atmospheric Administration (NOAA) Hollings Scholar