ZIDA LIU

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EDUCATION

Duke University, Durham, NC, USA   *Aug.2018 - Present*
M.Sc., Electrical and Computer Engineering
Concentration: IoT's applied machine learning and Augmented *Reality*
Overall: GPA: 3.73/4.00

Huazhong University of Science and Technology, China
B.E., Electronic Information and Communications   *Sep.2014 - Jun.2018*
• Bachelor of Engineering in Telecommunication Engineering
Overall: GPA: 3.56/4.00

RESEARCH & TEACHING EXPERIENCE

Intelligent Interactive Internet of Things Lab, Duke University, Durham   *May.2019 - Present*
Research Assistant
• Advised by Prof. Maria Golatova
• Participating in the design of an Auxiliary-assisted ensemble learning framework for dynamic metasurface antenna-based radio-frequency sensing.
• Designing collaborative AR system to improve the users experience under heterogeneous AR scenario.

National Anti-Counterfeit Engineering Research Center, Wuhan, China   *Jan.2017 - Apr.2018*
Data Science and Computer Vision Laboratory
• Participating research on Top-Down Saliency Detection: implemented proposed single SCSPM backtracking model using Matlab; completed a performance comparison and result analysis in the paper
• Refining a semantic segmentation algorithms with Deep Learning: Using the VGG-16 network introducing a series of different hole convolutions in place of the pooling layer to reduce noise and make feature images denser; Using a deconvolution layer instead of a bilinear difference method to recover the feature map into the original image size; Adopting a fully connected conditional random field to complete the fine processing of the edge of the partitioned image

ECE 586 - Vector Space Methods with Applications, Duke University, Durham   *Aug.2019 - Present*
Teaching Assistant
• Helping student to establish basic notions of topology in the context of metric spaces.
• Holding TA office hour to teach students applying vector space methods to signal processing, machine learning, optimization, least-squares filtering, and minimum mean-square error estimation and also gain proficiency at using high-level scientific programming such as Python and Matlab.
• Assisting Professor to grade students' homework, projects and exams.

PUBLICATIONS

• [1] **Zida Liu,** Guohao Lan, Jovan Stojkovic, Yunfan Zhang, Carlee Joe-Wong, and Maria Gorlatova, "*Title withheld for concurrent double-blind review,*" submitted to ACM/IEEE Conference on Information Processing in Sensor Networks (IPSN'19).

• [2] Jovan Stojkovic, **Zida Liu**, Guohao Lan, Carlee Joe-Wong, and Maria Gorlatova, "*Demo: Edge Assisted Collaborative Image Recognition for Augmented Reality,*" to appear in ACM Conference on Embedded Networked Sensor Systems (ACM SenSys'19) [Abstract][Video].

• [3] Guohao Lan, Mohammadreza F. Imani, **Zida Liu**, Wenjun Hu, Andrew Lan, David R. Smith, and Maria Gorlatova, "*MetaSense: Fine-grained RF Sensing using Dynamic Metasurface Antenna,*" under preparation.

PROJECT EXPERIENCE

Multi-threads FTP Uploads and Downloads Software Design   *Sep.2016 - Dec.2016*
• Undertook tasks to create a FTP client with GUI in the software programing
• Used C++, MFC programming to obtain file addresses when double clicking and embedded the address into Upload and Download function for file transmission

- Enhanced reusability by extracting diverse code style rules and provided a multi-threads method; achieved d several files transmission simultaneously by providing the multi-threads interface for developers to easily integrate their own download and upload methods into the whole system

Matching human faces in documents with human faces by VGG Face Deep learning   *Apr.2017 - Jun.2017*
- Used existing VGG Deep learning framework to realize a robust face-matching module
- Based on Caffe Deep Learning framework with Python, modified network dimensions on the last but one layer and calculated two-norm of feature vectors to match the target face with that of documents
- Wrote a script file finding appropriate deciding threshold
- Designed user-friendly Graphical User Interface with Tkinter to integrate the whole module within the project

INTERNSHIP
Cisco   *Sep.2017 - Nov.2017*
- Designed a tiny intelligent troubleshooting expert system with Python
- Provided a diagnostic model framework and interface for users to create their raw standard models
- Created simple GUI as the reporting module to exhibit systems performances
- Improved its diagnostic models by training K-nearest classifier from real-world experience

UNIVERSITY LEADERSHIP &ACTIVITIES
President-P.E Department of Student Union, HUST	*Sep.2014 - Sep.2015*
Student International Communication Association	*Apr.2015 - Aug.2015*
Members of HUST Music Club	*Sep.2015 - Aug.2015*
Online Learning: Coursera.org: <u>Machine Learning</u>, <u>Deep Learning</u>	*Oct.2016 - Nov.2017*

HONORS& AWARDS
The Innovation and Entrepreneurship Competition of College Students of Hubei	*Apr.2016 - Apr.2017*
2nd Prize, the Front-end Web Design Contest, HUST	*Nov.2015*
Excellent Student Cadres	*Sep.2014 - Sep.2015*

SKILLS
- Platforms: Mac OS, Windows, Linux
- Languages: C/C++,Python, Matlab, Java,, CSS, Html, JavaScript, Latex
- Softwares: Xcode, Spider, CodeBlocks, Sublime Text, Git, Visual Studio, Office, Keynote, etc