

Linsheng He

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<https://www.Finspire4U.github.io>

(405) 885-9058

Education

University of Alabama

Ph.D. Student | Electrical and Computer Engineering | College of Engineering

Tuscaloosa, AL

Aug 2020 - now

University of Oklahoma

M.S. | Electrical and Computer Engineering | College of Engineering

Norman, OK

Aug 2017 - May 2019

- GRE: 320 | GPA: 4.0/4.0

- Relevant courses: Computer Architecture, Artificial Neural Networks, Computer Vision, Applied Statistical Methods

Changchun University of Science and Technology

B.S. | Electrical and Computer Engineering | College of Electrical Engineering

Changchun, China

Sep 2013 - Jun 2017

- GPA: 80.3/100

- Relevant courses: DSP, DIP, Digital Logics Circuit, Wireless Communicate Technology, Field and Wave Electromagnetics

Work Experience

University of Alabama

Graduate Research Assistant | SSS Lab | College of Engineering

Tuscaloosa, AL

Aug 2020 - now

- Research on deep learning-based telecommunication objects trajectory and direction antennas topology prediction;

- Simulate Unmanned Aerial Vehicle (UAV) information by distributed deep reinforcement learning (DRL) in OSI multi-layers.

University of Alabama

Graduate Teaching Assistant | Digital Logic course | College of Engineering

Tuscaloosa, AL

Aug 2021 - now

- Work as a laboratory manager, helping students to learn digital logic circuits using Quartus and breadboards.

University of Oklahoma

Graduate Research Assistant | Computer-Aided Diagnosis Lab | College of Engineering

Norman, OK

Jan 2019 - May 2020

- Researched on breast tumor classification, brain tissue segmentation and pathology detection projects;

- Developed models of medical image processing in deep neural networks and assist diagnosis by Python;

- Integrated a local medical image database by directions and labels using the database management method.

Projects

Deep Neighbor Adaptation (DNA)-based Terahertz Medium Access Control (MAC) for Highly Dynamic Airborne Networks

Ph.D. research | Paper under reviewing

Aug 2020 - now

- Built a predictive network status estimation model through Graph Convolutional Networks (GCN), LSTM and GAN;

- Proposed a nested DRL with outer/inner loops for antenna actions selection;

- Completed THz MAC protocol simulation that considers the routing context and dynamic topology.

Implementation of Tencent TARS Microservice Deployment RPC Framework and Website Developing

Tencent challenge [project](#)

Mar - Apr 2020

- Launched and deployed own developed bookmark website via Tencent TARS microservice deployment RPC framework.

Regression and Classification of Breast Cancer Depicting on Digital Pathology Images Using CNNs

Master's degree [thesis](#) | Defended in 2019 Spring | SPIE 2019 challenge | Ranked top 20%

Oct 2018 - Apr 2019

- Compared and Integrated the CNN algorithm and performed threshold analysis on different regression functions;

- Implemented GAN to improve the overfitting of the competition verification set caused by too few testsets, improper data enhancement, and uneven distribution of the dataset.

Implementation and Comparison of DUMAS Data Integration Algorithm in PostgreSQL Management System

Course [project](#) | Advanced Database Management

Mar - Apr 2019

- Connected and integrated two different databases to reproduce duplicate detection and matching by PostgreSQL.

Automated Segmentation of Prostate Structures by Using V-Net in MRI

Course [project](#) | Artificial Neural Network

Mar - May 2018

- Implemented V-Net in TensorFlow and performed segmentation prediction on 3-D prostate images in ITK-SNAP.

Methods for Brain Tissue Segmentation in CT Images

Course [project](#) | Computer Vision

Mar - May 2018

- Segmented the 3-D brain tissue automatically by implementing thresholds and region growing method in MATLAB.

Applying U-Net for Retinal Lesion Segmentation

ISBI 2018 IDRiD challenge, sub-challenge one | Ranked 4th out of 22 submissions

Jan - Mar 2018

- Classified four types of early detection of retinopathy from the fundus image;

- Used two U-Net superposition algorithms to fine-tune the parameters according to different thresholds;

- Added segmented lesion area to fine calibrate the lesion classification results.

Skills

- **Machine Learning:** Python, Java, MATLAB, PyTorch, TensorFlow, CNN, LSTM, GAN, DRL;

- **Software Engineering:** Linux, IntelliJ IDEA, Spring, CORE, MySQL, PostgreSQL, MongoDB, Pig, R, RStudio