Shee-Hahn Liu (she/her/hers)

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EDUCATION

JOHNS HOPKINS UNIVERSITY Baltimore, MD
MS in Electrical & Computer Engineering 2020 - 2023
University of California, Santa Barbara Santa Barbara, CA
BS in Electrical & Computer Engineering 2016 - 2020

Relevant Coursework: ML for Signal Processing, Digital Signal Processing, Modern Convex Optimization, Compressed Sensing and Sparse Recovery, Image Processing & Analysis, Audio Signal Processing, Machine Learning, Artificial Intelligence, Computer Networking, Embedded Systems, Android App Development, Digital Design Principles, Sensor and Peripheral Interface Design, Computer Architecture, Ultrasound & Photoacoustic Beamforming

RESEARCH & COURSE PROJECTS

CornerNet3D for Photoacoustic Visual Servoing System, The PULSE LAB, JHU 02/2022 – 08/2022

- Integrated with existing code base for CornerNet to adapt medical image datasets and generated annotations of datasets in VOC and MS COCO format using MATLAB.
- Designed a CornerNet3D-based photoacoustic point source localization system using Pytorch and NumPy with a real-time robotic control system for visual servoing of needle tips in phantoms in ROS OS.

Comparison between Dictionary Learning and Deep Learning, JHU 02/2022 - 05/2022

- Led a group of 3 to compare accuracy and execution time using the Extended YaleB Dataset for face recognition among OMP, FISTA dictionary learning, dictionary learning with PCA, and ResNet with Python Tensorflow.

Human Speech Activity Detection, JHU 10/2020 - 12/2020

- Led a group of 2 to classify human speech from a custom dataset and implemented mean of log energy, spectral spread, spectral flux, and MFCCs as feature extraction algorithms to achieve up to 75% accuracy with MATLAB.

VisHawk, CE Senior Capstone Project, UCSB 09/2019 - 06/2020

- Created and tested an unmanned air vehicle that can autonomously operate between two moving ships without any RF communication using the existing flight controller PixHawk interfaced with Raspberry Pi to detect AprilTag.

WORK EXPERIENCE

Full-time Information Experience Engineer Internship 03/2021 - 11/2021
Huawei, Nanjing Research & Development Center Nanjing, China

- Led a team of 3 entry-level engineers in designing and maintaining configuration guides for NetEngine Routers.
- Professional in computer network fundamentals with core and novelty technology such as NSR, SRv6, SD-WAN, etc.
- Integrated Flask Framework, XLRD, and Pandas in Python to independently build 3 internal tools to analyze workload and improve the whole team's efficiency by 20%.
- Presented two tutorials about upgrading switches and switching modes for APs of the wireless network to over 100 people; Communicated with global customers through online meetings three times a month.

Full-time Software Engineering Internship 07/2019 - 09/2019
Neusoft Corportation, Nanjing Branch Nanjing, China

- Extracted data from MySQL Server and provided maintenance services for the medical system application.
- Improved the quality of patients' data to Top 5 in a domestic race from Oracle by rearchitecting the database.
- Developed C# API to extract staff's financial data from Oracle based on the manager's requirement.
- Bug fixes and feature development for medical software used by doctors and nurses.

SPECIALIZED SKILLS

- **Programming Languages:** Python, C++, SQL, C, Java, C#, Unix/Linux Shell Scripting, MIPS32
- **Software:** MATLAB, Vim, Android Studio, Visual Studio Code, Microsoft Excel, Apache Spark
- **Hardware:** Raspberry Pi, NXP Development Kit, Arduino
- **Machine Learning:** Deep Learning, Regression, Classification, Reinforcement Learning
- **Framework/Applications/OS:** Tensorflow, scikit-learn, Pytorch, Git, Juypter, Google Colab, Anaconda, Docker, Kubernetes, OpenCL
- **Languages:** English, Mandarin, Italian (Daily Communication)
- **Certifications:**
  - **Introduction to Medical Images**, Udemy 06/2022
  - **IBM AI Engineer**, IBM & Coursera 07/2022
  - **GPU Programming**, Johns Hopkins University & Coursera (In Progress) 07/2022