Yunnuo (Noah) Zhang

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Personal Website:
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Skills

Programming Language	Python, Java, JavaScript, C, SQL, CSS, HTML
Relevant Courses	Mathematical Foundation for Machine Learning, Design & Analysis of Algorithms, Operating Systems, Computer Architecture & Network, Database, Data Structure, Objects & Design
Frameworks/Others	SpringBoot, NodeJS, MyBatis, Docker, Jupyter/Google Colaboratory

Education

Bachelor of Science in Computer Science, *Georgia Institute of Technology* 2020 — 2023
Concentration in People/Intelligence, GPA 3.94/4.0
President Undergraduate Research Fellowship, Faculty Honors 2020, 2021

Experience

Research Assistant / Georgia Tech Contextual Computing Group **Jan 2021 — Present**
Georgia Tech *Atlanta, GA*

- Working with mobile computing pioneer and former Google Glass technical leader Dr. Thad Starner to design more accessible and human-centric interfaces.
- Worked on preprocessing fMRI and fNIRS data to reduce dimensionality with techniques including ICA and PCA with **Scikit-Learn**, designed Python-based automatic configuration algorithm for the fNIRS cap in BlenderKit.
- Achieved signal classification using **Numpy** and **Scikit-Learn**-based Support Vector Classifier (SVC) and using k-fold cross-validation to check for validity.

Research Assistant / Georgia Tech BrainLab **Jan 2021 — Present**
Georgia Tech *Atlanta, GA*

- Working with Dr. Melody Jackson to prototype EEG and fNIRS-based Brain-Computer Interfaces for alternative text entry and selection.
- Worked on collecting and analyzing Steady-State Visually Evoked Potential (SSVEP) and Auditory Steady-State Response (ASSR) signals with OpenBCI, Lab Streaming Layers, and Python PyXDF tool.
- Worked on deep learning for scalp EEG with Convolutional Neural Network(CNN) and Deep Belief Network (DBN) with **PyTorch** to classify motor imagery tasks with around 70 % of accuracy.

Projects

Lark-based Group Management Mini-app **Nov 2020**
Georgia Tech Shenzhen Institute / ByteDance Lark

- Developed a full-stack mini-app based on the Lark, the internal communication app of ByteDance. Competed with over 16 teams of a hundred people and won the 3rd place.
- Responsible for designing **MySQL** database schema from scratch, utilized **SpringBoot+MyBatis** to achieve CRUD functions including admin control, user edit and club page management.

Sleepal **Oct 2020**
Tsinghua University Shenzhen / United Nations

- Designed an IMU-fNIRS-based sleep monitoring system with afterward CBTI treatment from medical professionals, competed with over 100 teams at Tsinghua SDG Hackathon and won 2nd place with Technical Innovation Award.
- Responsible for hardware setting, data transferring and real-time analysis of fNIRS cap and MPU6050 gyroscope with esp8266 NodeMCU.

C-based Virtual Memory and Multithreading Project **Aug 2020**
Georgia Tech

- Achieved thread-safe memory allocation and physical memory - virtual memory translation using paging in **C** and **POSIX Thread**.
- Implemented commonly used page replacement algorithms including LRU, FIFO and LFU.
- Designed a multi-thread CPU scheduler in **C** with Round-Robin algorithm, implemented basic functionalities including process control block and context switch function.