

# ZHENGHAN FANG

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1874 Autumnwood Drive, State College, PA, USA 16801

## EDUCATION

### **THE PENNSYLVANIA STATE UNIVERSITY, COLLEGE OF ENGINEERING**

Bachelor of Science, Computer Science (Major GPA: 3.69/4.0)

Minors: Math, Econ, Planetary Science & Astronomy, and Japanese

University Park, PA

July 2017 – May 2021

### **PEKING UNIVERSITY, SCHOOL OF MATHEMATICAL SCIENCES**

Deep Learning Study Abroad Program

Beijing, China

June 2019 – July 2019

### **NATIONAL OLYMPIC MEMORIAL YOUTH CENTER**

Intensive Japanese Language and Culture Study Abroad Program

Tokyo & Chiba, Japan

June 2018 – August 2018

## RESEARCH

### **Deep Learning and Mathematic, with Dr. Jinchao Xu**

February 2019 – Present

- Investigated extensively about linear separability of MNIST dataset using logistic regression
- Studied loss progression of popular datasets
  - Python, TensorFlow, Keras, PyTorch, Logistic Regression, CNN, ResNet, and MGNet (multigrid network)

### **Machine Learning and Deep Learning, with Dr. Sencun Zhu**

September 2018 – May 2019

- Designed and implemented a facial expression recognition system with OpenCV's face classifier
- Trained model to accept photo and real-time video input
- Improved recognition accuracy using a convolutional neural network
  - Python, OpenCV, TensorFlow, and CNN

## PROFESSIONAL EXPERIENCE

### **ARMSTRONG WORLD INDUSTRIES – Capstone Design Project with Penn State**

University Park, PA

*Lead Data Analyst*

July 2020 – Present

- Designed and deployed a discrete event simulation model of a job-shop manufacturing plant
- Processed raw data and analyzed simulation results to identify bottleneck and potential improvement
  - Simio, Discrete Event Simulation, Data Processing and Analyzing

### **READYAI – Comprehensive K-12 AI Education Pioneer**

Pittsburgh, PA

*Computer Science Trainee*

July 2020 – Present

- Developed and deployed an AI solution to give student hands-on experience in AI training and the testing process
- Utilized JavaScript machine learning framework to allow access from almost all mobile devices
  - HTML, CSS, JS, NodeJs, Angular CLI, and Type Script

### **HONGFA GROUP**

Xiamen, China

*Project Management Associate*

May 2019 – July 2019

- Increased efficiency of workflow by incorporating automatic cellphone notification feature into the SAP ERP system
- Designed monitoring system to oversee transactions among customers, decreasing latency by a scale of magnitudes
  - Java, Python, SAP ERP, and Network Tools

### **KEYOU TECHNOLOGY**

Yiwu, China

*Software Development Intern*

May 2018 – August 2018

- Contributed to the process of defining business requirements for commercial software
- Performed project management tasks throughout the software development lifecycle
- Participated in the development of a client-server web application
  - Java, OOP, and client-server web app

## **LEADERSHIP**

### **HiElites AI CAMP**

Nanchang, China

*Teaching Assistant*

July 2019 – August 2019

- Coordinated daily operations such as scheduling, daily meetings, and feedback among lectures
- Mentored 50 students in different stages of AI-related projects, from proposal to the final presentation
  - Image Classification, Generative Adversarial Network (GAN), Neural Style Transfer, and Adversarial Attack

### **STORAGE BUSINESS**

State College, PA

*Initiator, Coordinator, and Warehouse Storage Manager*

May 2018 – August 2018 & May 2019 – August 2019

- Collected revenue of \$5000+ by providing local storage services for the first year
- Doubled revenue by cooperating with student body, CSSA, and THON
- Helped THON raise \$1500+ for the kids

### **PENN STATE ARTERY CLUB & PENN STATE KOREAN KARATE CLUB**

University Park, PA

*Safety Officer*

May 2018 – December 2019

- Administered the opening and closing of the range, and ensured the safety of personnel
- Certified with American Red Cross for First Aid, CPR, and AED

## **PROJECT & PROPOSAL**

### **Dynamic Storage Allocator**

January 2020 – February 2020

- Implemented Linux system call malloc in C to perform memory allocation
- Reached 92% space utilization and excellent thought put in the given test case
  - C, Memory Management, Pointer Arithmetic

### **Channels in C**

February 2020 – March 2019

- Implemented a Channels model for synchronization via message passing in C
- Supported both blocking and non-blocking calls, as well as buffered and unbuffered channels
  - C, Multithreading and Synchronization, Struct Manipulation

### **MyProxy**

April 2019 – May 2019

- Implemented a sequential caching web proxy with range support in C
- Supported both blocking and non-blocking calls, as well as buffered and unbuffered channels
  - C, Struct Manipulation, Dynamic Memory Management and Caching, HTTP Protocol

### **Unix Shell**

March 2019 – April 2019

- Implemented a simple Unix shell program that supports job control in C
- Supported both foreground and background processes and many shell commands
  - C, Processes Control, System Call

### **iSiri**

October 2020

- Wrote a proposal detailing Project iSiri, a highly personalized virtual assistant, for Siri's leadership team
  - Artificial Intelligence, Speech Recognition, NLP, TTS, Neural Style Transfer, Voice Recognition

### **Personal Project – Available at [github.com/ReLRail](https://github.com/ReLRail)**

October 2015 – Present

- Mini ERP system written in Java
- Multi-threaded web server in Java
- Kaggle Competitions
- Static website and Vue app

## **SKILLS & PERSONAL**

- Programming: C, Java, Python, Swift, C++, C#, HTML, CSS, JS, Verilog, and Scheme
- Software: Keras, TensorFlow, PyTorch, OpenCV, MongoDB, XCode, Angular, Vue.js, and Simio
- Technical Skills: Linux server, OAuth, WeChat Mini app, SAP ERP, SQL
- Languages: English, Chinese (Mandarin), Japanese
- Interests: Video editing and effects, music production, piano, karate, horticulture, and landscaping design