XINYUAN (Jack) ZHAO
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Portfolio Website [Link], GitHub [Link]

POSITION OBJECTIVE

- Software Engineer, New Grad, starting from summer 2023

EDUCATION

University of Pennsylvania, Philadelphia, PA — Expected: 09/2020 - 05/2023

- M.S. in *Computer and Information Science*
- M.S. in *Mechanical Engineering*, with Concentration in *Robotic Systems*
- Cumulative GPA: 3.81 / 4.0

Boston University, Boston, MA — 09/2016 – 05/2020

- B.S. in *Mechanical Engineering*, Minor in *Computer Science*, Cumulative GPA: 3.78 / 4.0

EXPERIENCE

Formlabs | ***Embedded Software Engineer Intern,*** Somerville, MA — 06/2022 - 08/2022

- ❖ Responsible for maintaining and developing new features for the software applications, firmwares, and UI of SLA and SLS 3D printers in order to improve the print experience. (**C/C++, Qt, Python**)
- ❖ Developed new safety features for C++ applications running on the printers. Added unit tests to mock hardwares and improved testing efficiency for the embedded applications.

Amazon | ***Software Development Engineer Intern,*** Seattle, WA — 06/2021 - 08/2021

- ❖ Developed a full-stack cloud system that supports multi-source data ingestion, storage, and searching/filtering.
- ❖ Used **Java**, **Spring MVC**, **React.js**, and **AWS** technologies to implement the system supporting multiple event types.
- ❖ The system was documented, launched, and can be used by multiple teams to effectively monitor different types of recent change events to their services during and after launching, and make decisions more efficiently.

Boston University | Material Robotics Lab, ***Research Assistant,*** Boston, MA — 03/2019 - 05/2020

- ❖ Led a team of 4 to design an origami-inspired soft robotic arm that can perform surgical tasks during endoscopy.
- ❖ In charge of designing an Electromechanical Control System with a Graphical User Interface. (**Arduino**, **tkinter**)
- ❖ Delivered a fully functional system prototype including the robotic arm, actuators, control system and UI.

SELECTED PROJECTS

PennCloud - Distributed Cloud Platform with Fault-Tolerance [Portfolio Link] — 12/2021

- ❖ Designed and Built a full-stack distributed system with storage and webmail services using **C/C++** and **gRPC**.
- ❖ Implemented TCP-based HTTP servers with user login, load balance, cloud storage and SMTP mail services.
- ❖ Implemented distributed key-value store with master management, primary-based replication, and fault-tolerance.
- ❖ Built an Admin console to monitor multi-server status. Guarantees crash fault tolerant and sequential consistency.

Distributed Chat System — 11/2021

- ❖ Implemented multi-threaded, UDP-based chat servers with join chat room and change nickname services.
- ❖ Applied algorithms to ensure either FIFO or total ordering for sending and receiving messages. **(C/C++)**

Custom Wall Following Robot with WiFi Control [Portfolio Link] — 04/2021

- ❖ Built a ESP32 based differential drive robot with WiFi control, autonomous wall following, and grabbing capabilities.
- ❖ Constructed by laser-cut CAD models, self-designed circuits and ultrasonic sensors. **Embedded Programming** using **Event-driven architecture** with C++ and developed a web page controller (Javascript, AJAX).

SKILLS

Programming Languages: C/C++, Python, Java, MATLAB, Javascript
Software Development: AWS, Git, QT, gRPC/protobuf, Spring MVC, React.js, ROS, Linux
Relevant Courses: Distributed Systems, Algorithm Analysis, Machine Learning, Computer Vision

LANGUAGE

English (Proficient), **Chinese** (Native)