Jiayu Pu

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EDUCATION

University of Southern California **Jan 2022 - May 2024**
Master of Science in Computer Science Los Angeles, CA
Relevant Courses: Data Structure, Algorithm, Object-oriented Design, Database System, Web/Mobile Development, Machine Learning, Game Design, Computer Network

The Ohio State University **Aug 2017 – May 2021**
Bachelor of Science in Electrical and Computer Engineering, GPA: 3.6 / 4.0 Columbus, OH

TECHNICAL SKILLS

Programming Languages: Java, Python, C/C++, Golang, JavaScript, MATLAB, SQL, C#, R
Web/Mobile Development: Java Servlet, Spring, Hibernate, Ant Design, ES6, LESS/SASS, ElasticSearch, React.js, Vue.js, Retrofit
Tools: Git, Linux, AWS, GCP, MySQL, PostgreSQL, Docker, Maven, Tomcat, Postman, Android Studio, Unity

WORK EXPERIENCE

PLANET CENTS, INC. **Sep 2021 – Dec 2021**
Tech Team Lead | Software Engineer Intern Clearlake, CA

- Led an Agile team of 5 to develop and maintain the e-commerce website with **Shopify**, set and tracked agendas of all activities
- Created a functional product search page for the website by using **Vue.js** with Shopify's predictive search APIs, improving users' search experience and increasing target audience engagement by 13% measured by Shopify analytics
- Translated 10+ UI/UX designs to Shopify theme implementations, resulting in customized elements layout of the website

Cardiovascular Magnetic Resonance Imaging Lab **Jan. 2020 – May 2021**
Machine Learning Researcher Columbus, OH

- Designed a machine learning based classifier to assess CMR and ECG parameters for predicting how patients with frequent premature ventricular contractions would respond to catheter ablation
- Contributed to a 30% accuracy improvement via adjusting datasets selection and NN model parameters based on confusion matrix
- Analyzed the predictive results with digital signal processing and medical imaging knowledge to assist domain experts with risk stratification in assessing diagnoses
- **PUBLICATION**: Bhatti, S.; Pu, J.; Azfal, M.; Mann, J.; Gil, K.; Sheets, E.; Hopper, J.; Tong, M.; Ahmad, R. Predicting Success of Catheter Ablation for Patients with Premature Ventricular Contractions from CMR and ECG Parameters. SCMR's Virtual Scientific Sessions 2021

PROJECTS

Guinguin Food Online Ordering System | Spring, Hibernate **Jul 2022 – Sep 2022**

- Built **RESTful APIs** via **Spring MVC**, including registration, menu searching and ordering, checkout etc., which increased the modularity of the web application, and promoted the separation of concerns
- Utilized **Hibernate** to access and operate the data storage (menu, restaurants etc.), solving the data mismatch found between the object oriented classes of an application and relational database
- Implemented authentication and authorization via **Spring Security with JWT**, protecting the application from malicious attacks
- Built the client side with **React.js** and **Ant Design**, allowing users to add items to the shopping cart and place orders
- Deployed the application to the **AWS EC2** virtual machine with **Docker** for demonstration

Aroundagram Social Networking | Go, Cloud **May 2022 – Jul 2022**

- Designed and implemented a social network web application with **React.js**, boosting the speed and flexibility of development
- Implemented the authentication using token-based registration/login/logout flow with **React Router v4** and server-side user authentication with **JWT**, increasing the scalability and efficiency
- Launched a scalable web service in **Go** to handle posts and deployed to **Google Cloud (Google App Engine)**
- Increased the performance and the scalability by using **ElasticSearch** (deployed to GCE) to provide search functions

Guinguin News - Tinder-like News App | Android **Apr 2022 – May 2022**

- Designed a Tinder-like news app based on Google Component Architectural **MVVM** pattern, realizing the decoupling of the code
- Implemented the bottom bar & page navigation using **Jetpack's Navigation** component, enabling and handling deep linking
- Utilized the 3rd party **CardStackView (RecyclerView)** to support swipe gestures for liking/disliking the news, integrating animations for adding, updating and removing items, increasing the performance when loading list items
- Built the **ROOM** Database with LiveData & ViewModel to support local cache and offline mode, minimizing repetitive and error-prone boilerplate code, streamlining database migration paths

Twinkle Star - Trajectory Visualization | React.js, D3 **Mar 2022 – Apr 2022**

- Designed and developed a visualization dashboard using **React.js** and **D3** to track satellites in real-time based on geo-locations
- Built location, altitude, and duration based selectors to refine satellite search using **Ant Design** component library
- Achieved the core tracking functionality by fetching nearby satellites' info and position prediction data through the N2YO APIs and **React-Simple-Map** to animate selected satellite paths on a map