

Tong Guo

735 Campus Drive, Stanford, CA 94305
650-690-1374 | tongguo2024@gmail.com | <https://tongguo943.github.io>

EDUCATION

Stanford University	09/2022-06/2024 (Expected)
<i>Master of Science in Civil and Environmental Engineering</i>	<i>Stanford, CA</i>
Zhejiang University	09/2018-06/2022
<i>Bachelor of Engineering in Harbor, Waterway, and Coastal Engineering</i>	<i>Hangzhou, China</i>

TECHNICAL SKILLS

Programming Languages: JavaScript, TypeScript, Java, C, Python, SQL
Web Development: HTML, CSS, React, Redux, Next.js, Node.js, Express, Webpack, MongoDB, MySQL, Firebase
Tools & Platform: Visual Studio Code, IntelliJ IDEA, Eclipse, AWS, Google Cloud Platform, Git, MATLAB
Relevant Coursework: Operating Systems Principles, Data Structures, Design and Analysis of Algorithms, Object-Oriented Systems Design, Data Management and Data Systems, Web Applications, Computer and Network Security, Cloud Computing, Machine Learning

SELECTED PROJECTS

Photo-Sharing Web Application

Full-Stack Development

- Conducted full-stack development of a photo-sharing social app using **MongoDB, Express, React, and Node.js**
- Developed an AJAX-based frontend using **NPM, Webpack, React, and React Router**, achieving a seamless single-page application experience
- Implemented **RESTful APIs** to handle HTTP requests and responses, using **Node.js** and **Express**
- Enhanced security with encryption for user login and registration

Music Streaming Service

Front-End Development & API Integration

- Implemented a comprehensive music player for streaming service, using **React** functional components for enhanced reusability and efficiency in UI design
- Applied **Tailwind CSS** for a responsive and visually appealing interface across various devices
- Integrated **RapidAPI** for dynamic data fetching, broadening content accessibility and diversity within the app

Instant Messaging App

Mobile Application Development

- Designed and developed an instant messaging app with **React Native**, ensuring cross-platform compatibility
- Utilized **Redux** for efficient app state management
- Implemented real-time messaging using **Firebase's** live database updates
- Integrated push notifications, further enriching user engagement and interactivity within the app

Android Game Development

Object-Oriented Design & Graphical User Interface Design

- Developed a player and editor for a graphical adventure game using **Java, XML, and SQLite**
- Led the graphical user interface design and Java class architecture; implemented user-touch interactions
- Collaborated with a four-member team, using **Git** for version control and efficient development processes

Stack Overflow Data Analysis & Machine Learning

Big Data Analysis & Machine Learning

- Conducted in-depth analysis of Stack Overflow data using **Google BigQuery** and **Google Colaboratory**, identifying key factors affecting response times
- Optimized **SQL** queries for efficient data extraction and analysis; created data visualizations using **Matplotlib**
- Developed machine learning models to predict question response efficiency