Chenghong Ren

Tech Consultant

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Projects

Embedded system keyboard

- Develop a digital keyboard running on an STM32 with CAN BUS functionality to join multiple devices. Added a graphical interface with the ability to change octaves, waveforms and volume
- Tools Used: C++

Final project

- A full-stack project created in small pods/teams. A TypeScript frontend end is connected with a Spring Boot API and MySQL database and deployed.
- Tools Used: TypeScript, Spring Boot API, MySQL database

Wireless system simulation

- Developed a wireless communication system in MATLAB, comparing the performance of SISO, SIMO and MIMO systems. Implemented spread-spectrum communication using Gold codes, with receiver-side delay estimation and beamforming
- Tools Used: MATLAB

Java project

- A Java application which demonstrates complex implementation of the pillars of OOP, as well as SOLID principles.
- Tools Used: Java, CSS, JavaScript

Game project

- A browser-based game using modern TypeScript, and HTML/CSS.
- Tools Used: TypeScript

Experience

Trainee Tech Consultant, Nology – Remote January 2026 – March 2026

- Completed 8 weeks, in an industry led training course focused on JavaScript and building a strong foundation with HTML, CSS, TypeScript, JavaScript, Java
- Experienced with industry standard practices such as Test-Driven development, paired programming and Model-View-Controller design.
- Effectively developed projects in solo, paired and group environments.

Modem Systems Intern, Qualcomm – Bristol, UK April 2023 – Oct 2023

- Worked with the modem systems team on Polar transmitter projects and developed an algorithm for zero crossing avoidance for the 16QAM modulation scheme
- Identified and solved the problem with the existing solution for older modulation schemes
- Improved the key performance metrics to meet the internal and Bluetooth standards
- The results were presented to the wider team, and the algorithm will be implemented in Bluetooth products

Technologies

Languages: C++, C, Python, Java, SQL, JavaScript, TypeScript, HTML, CSS, MATLAB

Technologies: AWS, Git, SVN, Intel Quartus

Testing: Test-Driven Development (TDD), Jest, Cypress, JUnit

Education

Imperial college London, Meng in Electronic and Information Engineering, 2020 - 2024

- **Coursework:** Computer Architecture, Advanced Communication Theory, Embedded systems, Machine learning

Churchill Academy and Sixth Form, A-Levels 2018-2020

- **Grades:** Mathematics - A*, Further Mathematics- A*, Physics - A

Awards

- Awarded with the EE department prize for the best 1st year end-of-year project at Imperial College London
- Won several Gold and silver awards in challenges organized by the UK Mathematical Trust and advanced to the next stage two times.