


## WORK EXPERIENCE

### Delta Capita

 London, UK

 Oct 2022 – Present


#### Senior Software Engineer


- Leading a development team on an internal project, extracting recruitment platform data for integration with AWS RDS and visualization via a Power BI dashboard.
- Designing and developing a backend system using Python (FastAPI) and MVC principles for a tier-1 wealth management client, automating customer repricing based on FCA regulations.
- Creating Docker and Kubernetes configurations to manage the deployment and hosting of the repricing application.
- Defining API contracts between frontend components, backend services, and an Azure Service Bus to ensure seamless data flow within the repricing system.

#### Software Engineer

- Engineered and maintained an automated Index Review Application for a tier-1 market infrastructure provider, utilizing Python, PostgreSQL, and AWS (S3, Lambda).
- Developed a bespoke Regression Testing Suite, significantly reducing manual testing efforts by 200% and improving application stability.
- Authored multiple Python utility functions that optimized application performance and streamlined testing workflows.
- Contributed to the full development lifecycle, from identifying market needs and designing solutions to implementing cloud-based components.


### Project Intern @ Brun Health


 Hyderabad, India

 Jan 2021 – Jul 2021

- Contributed to the embedded system design for a novel neurostimulation device.
- Developed and modelled core algorithms essential for the device's functionality and subsequent data analysis.

### Summer Intern @ Brun Health

 Hyderabad, India

 May 2019 – Jul 2019

- Collaborated with the R&D team on the 'Design of stethoscope using ultrasonic sensor' project.
- Performed detailed analysis of circuit diagrams and output waveforms to optimize signal clarity and device performance.

## PERSONAL PROJECTS

### Hangman Game

[Links](#)

- Developed an interactive and visually engaging user interface using React, leveraging component-based architecture and Sass for efficient styling.
- Built the server-side application using Node.js and Express, utilizing SQLite and the Sequelize ORM for data modeling and persistence.
- Implemented robust Cross-Origin Resource Sharing (CORS) handling policies on the backend to ensure seamless browser-API communication.

### Minimal Sketch

[Links](#)

- Engineered a real-time multiplayer Pictionary web application using React for the frontend and Node.js/Express for the backend.
- Implemented core real-time features, including live chat and synchronized drawing across clients, using WebSockets (Socket.IO).
- Developed room creation logic with unique IDs (UUID) and managed game state transitions (lobby, waiting, active) across multiple users.
- Solved the challenge of transmitting drawing data by serializing HTML canvas states and efficiently broadcasting them via WebSockets.
- Utilized React Router for client-side navigation and distinct URLs for different application states.

### BookMyShow Clone

[Repository](#)

- Engineered the backend system for a movie booking application using Java, Spring Boot 3, Spring Data JPA, and PostgreSQL.
- Implemented robust concurrency control mechanisms, including SERIALIZABLE transaction isolation and pessimistic locking, to handle simultaneous booking requests accurately.
- Designed RESTful APIs for core features (users, theatres, shows, bookings) following best practices.
- Applied design patterns (MVC, Repository, State) to ensure a scalable, maintainable, and well-structured codebase.

## SKILLS

### Programming Languages

Python Java JavaScript C++ SQL

### Web Development

#### Frontend

React HTML CSS Sass

#### Backend

Node.js Express WebSockets

Spring Boot FastAPI Django

### Databases

PostgreSQL SQLite

### Machine Learning & Data Science

TensorFlow PyTorch scikit-learn

### Tools & Technologies

Docker AWS Lambda AWS RDS AWS S3


AWS API Gateway AWS CloudWatch


Azure Service Bus

## EDUCATION

### Master of Science - Healthcare Technologies

 King's College London

 London, UK

 Sep 2021 – Sep 2022

### Bachelor of Technology - Electronics and Communications Engineering

 BML Munjal University

 New Delhi, India

 Aug 2017 – Sep 2021

## ACADEMIC PROJECTS

### Project MindMine: iOS Mental Health Application

Designed and developed an iOS mental health app (Swift/SwiftUI) analyzing behavioral patterns via HealthKit data, refined through UI/UX testing.

### Pancreatic Cancer Detection from CT Scans using DeepMedic

Developed a DeepMedic-based algorithm (PyTorch/MONAI) to detect cancer in CT scans, achieving a Dice loss of 0.3149.

## SOCIALS

 [GitHub/Vibhishan](https://github.com/Vibhishan)

 [LinkedIn/vibhishan-ranga](https://www.linkedin.com/in/vibhishan-ranga)