

VIBHISHAN RANGA

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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

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- 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

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- 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

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- 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.com/vibhishan

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