# Preesha Gehlot

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*Seeking a challenging role in software engineering where I can leverage emerging technologies to build innovative solutions and drive organisational success.*

## EXPERIENCE

### **Bloomberg,** London - *Software Engineering Placement*

APRIL - SEPTEMBER 2024

Worked within a team developing a social media platform focused on enabling users to comment on any type of content on the Bloomberg Terminal. Worked independently on building a recommender system for posts and people to follow. The four milestones I achieved in this project were:

- Implementing pipelines to ingest metrics data
- Designing and implementing a real-time trending posts system
- Building a 'network' of similar people based on content they post
- Generating personalised recommendations for a user.

### **Microsoft,** London - *Software Engineering Internship*

JULY - SEPTEMBER 2023

Worked for three months within the ERP team at Microsoft Azure, building a history tracking and auditing application primarily for operational and security users. The focus was on designing event-driven audit mechanisms for ERP systems, constructing and optimizing complex database queries, with usability, security, data obfuscation, performance and storage needs.

### **Imperial College London,** London — *Teaching Assistant*

SEPTEMBER - JUNE 2022

Responsible for primarily helping in labs of 50 first-year students with programming assignments in Haskell, Java, Kotlin, and C.

### **NeosAlpha,** London — *Software Engineering Internship*

JULY - SEPTEMBER 2022

- Designed and developed an API product to enable e-commerce businesses
- Defined a time-bound scope to build a minimum viable product that meets specific quality standards
- Designed a solution following the Microservices architectural style
- Developed RESTful APIs in Python using the FastAPI web framework
- Developed a CI/CD pipeline to continuously test the build and automatically deploy, experimented with different deployment methods including Docker.

### **Bloomberg,** London — BWIT *Spring Week*

APRIL 2022

Participated in the Bloomberg Women In Tech Spring Week, which continued for another 2 months with a mentorship program.

## TECHNICAL SKILLS

- C / C++
- Java / Kotlin
- Python
- RDBMS
- Kubernetes / Docker
- HTML/CSS/Javascript
- Data Modelling
- System Design
- Full Stack development

## SOFT/OTHER SKILLS

- **Presentation:** Distinction in LAMDA grade 8 Public Speaking
- **Leadership:** Team lead to a charity expedition to Vietnam, and managed to fundraise entirely for the trip.
- **Communication:** Volunteered to tutor refugee children last year in English, Maths and preparing for the 11+ entrance examinations.
- **Problem-Solving:** Designing and implementing numerous projects throughout university has exposed me to solving problems with varied and complex constraints.
- **Languages:** Fluent in English and Hindi, basic in German.

## EDUCATION

### Imperial College London — *MEng Computing*

OCT 2021 - JUNE 2025

- **Cumulative total: First Class Honors**
- Modules: Databases, Algorithms, Computer Architecture, Probability and Statistics, Discrete Mathematics, Computational Techniques, OS, Networks, Compilers, Concurrent Programming, Data Processing Systems, Distributed Algorithms, ML and Computer vision.

### Kendrick School, Reading — *A levels*

SEPT 2014 - JULY 2021

- Achieved 4A* in Maths, Physics, Economics and Further Maths

## PROJECTS

### Pintos — *C, Assembly*

- Task 1: Implemented priority scheduling and donation for threads, and a multi-level feedback queue scheduler.
- Task 2: Allowed user programs to read and write to memory through a variety of system calls
- Task 3: Implemented virtual memory for the OS, including demand paging and eviction, swapping, memory mapping and sharing files.

### Summentia — *Python, Typescript*

- Created a platform that provides an automated summary of lectures and talks to aid students in their revision.
- The process involved experimenting and adapting AI libraries to detect slide transitions, splitting and transcribing videos by timestamps, summarising the transcript output, and social media integration
- Added additional functionality on the UI such as an editor to personalise notes, the ability to store and share the document with other users, automatic generation of flashcards and prompts for revision.

### RAFT Consensus — *Elixir*

- Implemented the RAFT algorithm in Elixir and evaluated performance
- Handled leader election through log comparison and majority voting
- Ensure state machine safety on our system, so that servers apply log entries in the same order to their state machines.

### Refinable Hash Set - *C++*

- Created a suite of custom thread-safe hash sets, including a refinable hash set that has one mutex per hash bucket. Additional mutexes are added when the hash set is resized

## COURSES

**RedHat 2022 University Student Bootcamp**: Kubernetes Bootcamp aimed at university students. Covered containerised applications, build and deployment automation, scaling, health management, RBAC, DevOps and GitOps approaches. We were also introduced to innovative technologies including service mesh, serverless and Quarkus.

**System Design Fundamentals:** Understanding the key building blocks that make systems available, durable and scalable. Derive constraints and requirements for any large-scale complex system and design these systems using various building blocks in a microservice architecture.

**Data Analysis with Python:** Implemented reading data from multiple sources (CSV, SQL, Excel), processing that data using NumPy and Pandas, and visualizing it using Matplotlib and Seaborn.