ABHINAV GUPTA

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EDUCATION

University of Waterloo Sep 2020 - Apr 2025
Candidate for Bachelor of Honours Computer Science – Software Engineering Specialization
Relevant Courses – Algorithms, Data Structures, Intro to AI, User Interfaces, Database Management, Software Design

WORK EXPERIENCE

Cloud Backend Engineer Intern May 2023 – Aug 2023
Deloitte *Toronto, ON*

- Engineered a system to enable users to search for data from 2,000+ cloud bundles stored in **MongoDB** using **C#** and **.NET**, implementing advanced string matching and a dynamic Mongo query builder for streamlined data retrieval.
- Built a backend service that schedules task execution for cloud account provisioning - accelerating the process by **50%**.
- Constructed an object-oriented caching service using **Redis Cache** to enhance cloud account data retrieval speeds by **10x**.

Backend Engineer Intern Jan 2023 – Apr 2023
OpenLane *Toronto, ON*

- Implemented **AWS Serverless** REST APIs in **TypeScript** with **PostgreSQL** and **Elastic Search** databases to execute business logic for online car auctioning - involved building lambda functions, controllers, query builders, and post-processors.
- Built a **NodeJS** script to run multiple threads in parallel to query 6 million rows of data from **OracleDB** to update development databases weekly. Improved performance by **160%** when compared to single-threaded querying.
- Developed object-oriented services to combine car auction data into a unified dataset and display them on the platform.
- Formulated 40+ **Cucumber** integration, **Jest** unit, and **Mocha** unit test cases - ensuring code reliability and robustness.

Frontend Developer Intern May 2022 – Aug 2022
TutorOcean *Ottawa, ON*

- Utilized **ReactJS**, **MeteorJS**, and **CSS** to implement new features on the B2C EdTech platform, such as a tutor availability blocking system, and fix over **40%** of issues reported across all B2B SaaS products.
- Diagnosed and documented complex issues by finding patterns in data retrieved from **MongoDB** using **Studio3T**.

Co-Founder and CTO May 2022 – July 2023
Serv2U *Waterloo, ON*

- Managed and mentored a team of 5 software developers - productivity increased to **2x** by following the Agile methodology.
- Rebuilt frontend web components using **ReactJS**, **CSS**, and **Redux** - resulting in a **50%** increase in platform performance.
- Integrated **JWT** authorization with automatic token refresh through **cron** jobs, using **Flask** with **Python**, into APIs as middleware for a full-stack authentication system - ensuring secure logins and a safer browsing experience for users.

PROJECTS

KeyHaven ⌂

- Built a password management platform with industry-level security: master passwords encrypted with **BCrypt** algorithm, passwords stored with **AES-256** encryption, and data sent to client via **HttpOnly** session cookies stored serverside.
- Utilized **Docker** to containerize the **NodeTS** frontend and **Express** backend, ensuring seamless deployment and scalability.

TripTailor (UofTHacks Project) ⌂

- Engineered and built a multi-table **PostgreSQL** database to store users, destinations, and their relationships, managed by **ElephantSQL**, for an AI platform that enables users to make travel plans for any country in the world with ease.
- Enhanced user engagement by fetching and displaying images to the **ReactJS** frontend from **Unsplash API**, whose queries consist of countries, cities, and locations being generated with prompt engineering through NLP by **Cohere API**.
- Developed backend REST APIs in **Python** with **Flask** and frontend API calls in **JavaScript**; hosted on **Render** platform.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, C++, C#, C, Kotlin, Java, SQL, Python, Swift, HTML/CSS
Frameworks: React, Node, Flask, Material-UI, .NET, Express, TailwindCSS, NextJS, Redux, MeteorJS, Robot Framework, Selenium WebDriver, Swagger, Cucumber, Jest, Mocha
Developer Tools: Git, Linux, MongoDB, PostgreSQL, OracleDB, Elastic Search, Postman, ElephantSQL, AWS, GCP, DBeaver, Studio3T, Redis Cache, Docker, Heroku, Render, Appium, Jenkins