Dumisani Chambela

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Willing to relocate

Profile

I am a final-year Computer Science and Information Systems student at the University of Cape Town with a strong foundation in software engineering, distributed systems, and data-driven problem solving. My interests lie in applying technology to real-world challenges through areas such as machine learning, back-end development, business intelligence, and system design. I have hands-on experience with Python, Java, SQL, JavaScript, and C#, and enjoy building secure, scalable applications and data solutions. Beyond technical skills, I value collaboration, continuous learning, and contributing to projects that have practical impact. I am currently seeking graduate roles and internship opportunities where I can grow as a developer while adding value to a dynamic team.

Education

2025 - Current: Bachelor of Science in Computer Science and Information Systems, University of Cape Town (UCT)

Key Coursework:

- ***Computer Science****:* Python and Java programming, data structures and algorithms (trees, graphs, hashing, priority queues), relational databases (SQL), operating systems (processes, memory, file systems, security), computer networks (TCP/IP, OSI model), concurrency and parallel programming, assembler programming, and mobile app development.
- ***Information Systems****:* Business intelligence and analytics (data warehousing, OLAP, dashboards, big data), systems analysis and design (UML, requirements gathering, object-oriented design), IT project management, and e-commerce systems (web applications, UX, and prototype development).
- ***Electrical Engineering (Complementary)****:* Circuit analysis (DC/AC, transformers, motors), digital and analogue electronics (logic gates, op-amps, transistors, flip-flops, state machines).

2022: National Senior Certificate (Matric) Mabande Comprehensive High School, Phola, South Africa

- Distinctions in Mathematics and English.
- Achievements: Old Mutual Mathematics Olympiad participant, Highly Commended Eskom Science Expo project.

Technical Skills

- **Programming Languages**: Python, Java, C#, SQL.
- **Core Competencies**: Data Structures, Algorithms, Complexity Analysis, Object-Oriented Design, Problem Solving.
- **Distributed Systems**: Basic understanding of fault tolerance, scalability, and distributed storage.
- **Databases**: Relational Database Management Systems (SQL), Query Optimization.
- **Tools & Platforms**: AWS (basic knowledge), Git, Microsoft Office Suite (Excel, Word, PowerPoint).
- **Specialized Skills**: Git Version Control.

Projects

Domain Registration Analytics Tool (Python)

Designed and implemented a Python-based tool to clean, analyze, and visualize a global dataset of WHOIS domain registration records with more than 500 entries.

- Cleaned and pre-processed CSV data using pandas to remove nulls, impute missing org names, and normalize values.
- Extracted top registrant states, dominant WHOIS servers, and most abused TLDs.
- Visualized insights with Matplotlib in pie and bar charts, exporting results to a visualizations folder.

Phumla Kamnandi Hotel Booking System (C#, SQL)

Developed a hotel reservation management system for UCT INF2011S course as part of a collaborative team.

- Designed and implemented the frontend interface using Windows Forms and business logic layer for reservation management.
- Contributed to backend development with SQL Server database for CRUD operations on reservations and room data.
- Implemented three-layered architecture (Presentation, Business Logic, Data Access) for scalability and maintainability.
- Built dynamic pricing system based on seasonal rules and real-time booking confirmation with unique reservation numbers.

Secure File Upload Server (Python)

Built a TLS-encrypted file upload server with HTTP Basic Auth for secure file transfers to Android devices.

- Implemented a SimpleHTTPRequestHandler subclass to support multi-file uploads via web form.
- Added HTTP Basic Authentication and automatic filename conflict resolution.
- Used SSL and self-signed certificates to encrypt communication over HTTPS.
- Enabled uploads directly to Android over port 4443.

AI-Powered Meeting Minutes Generator

Built a python-based desktop app that uses LLMs to convert `.docx` meeting transcripts into structured minutes with detailed summaries.

- Integrated with Groq's LLaMA 3 API to summarize large meeting texts intelligently via chunking and prompt chaining.
- Designed a Tkinter GUI with real-time progress, file dialogs, and output rendering for non-technical users.
- Implemented retry logic, rate-limit handling, and PDF export functionality.

BlockDAG Hackathon Uyinene’s ledger (Solidity, Node.js, Next.js)

Built a decentralized file storage application on BlockDAG blockchain for a hackathon competition with a team of 4.

- Developed RESTful API using Node.js for file upload, sharing, and deletion with role-based access control.
- Integrated IPFS for distributed file storage and implemented smart contract interactions with the BlockDAG network.
- Contributed to Next.js frontend development for user interface and file management features.
- Implemented security features including private key management, file access permissions, and sharing mechanisms.

Work experience.

May 2023: Mathematics tutor, Simgiftyy Academic Solutions

- Worked as a mathematics tutor online assisting learners with math queries, preparing for tests and exams.

June 2024: volunteer, Phola Academia, Phola

- Provided guidance and clarity to matriculants on how to apply for University and Bursaries.
- Helped matriculants apply at their desired universities.

November 2024: Residence mentor and IT subcommittee

- I mentor first year students by providing guidance on how to navigate first year and how to adapt to the new environment.
- I help students with issues related to connecting their devices to the wi-fi.
- I help students with any IT queries and how to navigate to the online resources provided by the residence.

Key Achievements

- Leadership: Led a campaign for a residence entertainment position, securing top votes.
- Problem Solving: Applied optimization mathematics in projects and competitions.
- Recognition: Highly Commended Award in Eskom Science Expo for environmental project linking academic performance to classroom color schemes.