

RAHUL RAKESH

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EDUCATION

University of Western Ontario <i>B.Sc. Honours Specialization in Computer Science (CO-OP)</i>	2023–2027 (Expected) <i>London, Ontario</i>
– Relevant Coursework: Data Structures & Algorithms, Databases, Software Engineering, Machine Learning	

WORK AND LEADERSHIP EXPERIENCE

Freelance Web Developer <i>Self-Employed</i>	Sept 2024 – Present <i>Remote</i>
– Delivered production-grade full-stack applications for 5+ clients using React, HTML, CSS and PostgreSQL . – Improved website performance with 50% faster load times and 40% higher engagement through code optimization, lazy loading, and SEO best practices. – Led projects end-to-end, including requirements gathering, system design, deployment to AWS and Vercel .	
Ultimate Frisbee Captain / Coach <i>School / Merciful Redeemer Parish</i>	June 2022 – Aug 2025 <i>Mississauga, Ontario</i>
– Led and coached a competitive team of 15+ players to 2 tournament championships by coordinating training, strategy, and logistics. – Achieved 90% year-over-year player retention by developing structured training programs emphasizing skill development and teamwork. – Cultivated a positive team culture through mentorship, leadership development, and community outreach initiatives.	

PROJECTS

Fake Out – Real-Time Multiplayer Game — <i>React, TypeScript, Node.js, Socket.IO, Docker, Fly.io</i>	
– Built a real-time multiplayer game achieving sub-100ms latency and 99.5% uptime using React, TypeScript, Node.js , and Socket.IO . – Designed authoritative server-side game state with room-based events and heartbeat monitoring, supporting 10 concurrent players without desynchronization. – Deployed containerized services via Docker on Fly.io with CI/CD pipelines, handling 1,000+ game sessions .	
NeuroScan – RL-Driven HPC Workload Optimizer — <i>PyTorch, Gymnasium, AWS EC2, Docker</i>	
– Improved HPC scheduling efficiency by 25% and reduced job wait time by 35% using deep reinforcement learning agents built with PyTorch and Gymnasium . – Executed 10,000+ distributed simulations on AWS EC2 to evaluate policy performance at scale. – Optimized multi-objective reward functions balancing completion time and resource utilization, analyzed via TensorBoard . – Developed and deployed applications on Linux-based cloud environments using Docker, AWS EC2, and REST APIs.	
Schedula – Serverless Booking Backend — <i>Azure Functions, Azure SQL, JWT, REST API</i>	
– Developed a serverless booking API with sub-200ms response times using Azure Functions , Azure SQL , and JWT -based authentication. – Prevented race conditions and double bookings through transaction-safe scheduling , SQL isolation levels, and idempotent requests.	
VitaLink (TerraHacks 2025) – AI Healthcare Platform (— <i>React Native, Django REST, PostgreSQL</i>)	
– Reduced patient intake time by 30% by building a healthcare platform using React Native and Django REST Framework with intelligent form pre-filling, with Postgres for backend – Built LLM-powered workflows using Gemini AI for real-time reasoning, prompt-driven analysis, and automated decision support. – Designed AI prompts and response pipelines to generate structured outputs for downstream applications and services.	

TECHNICAL SKILLS

Languages: Languages: Python (AI/LLMs), Java (OOP, backend systems), JavaScript, TypeScript, C/C++, SQL

Web & Backend: React, Node.js, Express.js, Django, REST APIs, Socket.IO

Databases & Caching: PostgreSQL, MongoDB, SQLite, Redis, Azure SQL

Cloud & DevOps: AWS (EC2, S3, Lambda), Azure Functions, Docker, Git, GitHub Actions

ML: PyTorch, TensorFlow, Scikit-learn, Pandas, NumPy, Gymnasium (RL), OpenAI API, Gemini AI