




Abdul Rafay Khurram

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Relevant Experience

Software Developer

UBC Emerging Media Lab

Vancouver, BC, Canada

Sept. 2024 – Present

- Leading a team to develop an AI-powered VR platform for the UBC School of Nursing, integrating Large Language Models (LLMs) and Unreal Engine to simulate real-time clinical scenarios.
- Building a secondary AI layer to monitor and adjust patient responses, ensuring accuracy and improving system stability.
- Delivered a prototype in two weeks, showcasing realistic patient dialogues and securing further project funding.
- Optimizing LLM-driven patient behavior for more human-like interactions, enhancing the platform's educational impact.
- Cut backend costs by 90% through AI optimizations on the DXL server, improving system performance by 40%.

Software Engineer

Faaz Consulting

Maryland, USA

May – Sept. 2023

- Led the development of client applications in Java and Python, improving UI responsiveness by 30%.
- Enhanced legacy systems with new UI features using Vue.js and JavaScript, increasing user engagement by 15%.
- Automated DevOps processes with Jenkins and Docker, reducing deployment times by 20%.
- Delivered software enhancements for enterprise clients, adhering to strict deadlines and project specifications.

Relevant Technical Projects

Constructify

May 2024 – Present

Personal Project

- Built an A-Z home-building platform with transparent project tracking and a service provider marketplace, targeting aspiring homeowners and construction firms.
- Developed a responsive frontend using Vue.js and Vite, optimizing load times and performance.
- Designed an intuitive UI/UX through targeted user research and iterative testing, leading to a 25% reduction in user onboarding time.

Real Estate Management Platform

July – August 2023

Academic Project

- Developed a platform for seamless real estate transactions and property management, integrating service providers like inspectors and contractors.
- Designed and implemented a SQL database with OracleDB to model classes, utilizing ISA relationships for efficient querying and data manipulation.
- Created and managed API endpoints with Express.js, ensuring asynchronous processing to handle multi-user requests and streamline property listing management.

Research

Entropy Comparison in Random Generators

Sept. – Dec. 2020

Research Project

- Conducted a comprehensive analysis comparing the entropy levels of true-random vs. pseudo-random number generators, utilizing mathematical algorithms and hardware-based phenomena.
- Developed and executed tests in Java, C++, and Swift, measuring performance and entropy using TRNGs (True-Random Number Generators) and PRNGs (Pseudo-Random Number Generators).
- Demonstrated TRNGs' superiority for cryptographic purposes, resulting in more secure and unpredictable sequences compared to PRNGs.
- Published results in a detailed research paper, contributing to the understanding of secure random number generation.

Skills

Languages: Java, Python, JavaScript, TypeScript, SQL, HTML/CSS | **Frameworks:** Vue.js, Express.js, Django, Node.js, React.js

Tools: Git, MySQL, OracleDB, Vite, Docker | **API and Integration:** REST APIs

Testing: Unit, Integration, End-to-End, Smoke, A/B

Education

The University of British Columbia (BSc in Computer Science - Expected Graduation: 2026)

Vancouver, BC

UBC Science Co-op



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