Abdul Rafay Khurram

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Relevant Experience

Software Developer **Vancouver, BC, Canada**
UBC Emerging Media Lab *Sept. 2024 – Present*

- Leading a team in the development of a VR application using Unreal Engine to enhance nursing education, focusing on interactive clinical simulations and AI technologies.
- Reduced backend infrastructure costs by 90% through optimization of the AI system on the DXL server.
- Developing a secondary AI layer to monitor and re-prompt AI responses, aiming to improve system robustness, increase scalability, and reduce development time.
- Driving prompt engineering efforts to enhance the reliability and efficiency of AI-based outputs.

Software Engineer **Maryland, USA**
Faaz Consulting *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 **Personal Project**
May 2024 – Present

- 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 **Academic Project**
July – August 2023

- 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 **Research Project**
Sept. – Dec. 2020

- 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**