

Tayyib Chohan

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EDUCATION

University of British Columbia

Expected Graduation - April 2025

Computer Engineering - *Bachelor of Applied Science*

Relevant Courses: Advanced Machine Learning, Deep Learning, Digital Systems Design, Distributed Systems, Operating Systems, Machine Learning and Data Mining, Databases, Cyber Security

SKILLS

Programming: Python, C, C++, Java, JavaScript, C#

Frameworks & Libraries: NumPy, Pandas, Matplotlib, PyTorch, scikit-learn, WandB, Transformers, vLLM

Tools: Git, Docker, GitHub Actions, VSCode, AWS, GCP

Software Development: Agile, Scrum, Test-Driven Development, CI/CD

RESEARCH & PROJECTS

Undergraduate Thesis | UBC

July 2024 - Present

- Explored Visual Reasoning for Vision-Language Models (VLMs) through experimenting with multi-agent CoT processes, specialist model tooling, and reinforcement learning based fine tuning
- Leveraging PyTorch, DeepSpeed, and custom reward functions with vLLM to enhance image-text mathematical reasoning accuracy by over 20% through implementing GRPO

Emergency 911 Response System | UBC + Telus

Sept 2024 - Present

- Designed and trained a custom ML pipeline to identify the urgency of 911 calls to prevent system overload during natural disasters resulting in a test accuracy of 92%
- Created a novel dataset of 1500 emergency and non-emergency calls in order to benchmark model performance

Pixel CNN with Embedded Labels | UBC

Jan 2024 - April 2024

- Engineered a class-conditional Pixel CNN using PyTorch by integrating label embeddings, achieving over 85% classification accuracy.
- Enhanced architecture to produce discernible 16×16 images across four classes.

UBC Uncrewed Aerial Systems (Engineering Design Team), Vancouver, BC

Sept 2020 - Sept 2024

Team Lead, Payload Design and Development

- Led a team of 20 engineering students to design embedded autonomous systems rovers and winches, ranking 15th among 71 global teams in an intercollegiate competition
- Improved payload height telemetry accuracy with a Kalman filter for sensor fusion with onboard accelerometer and barometer enabling precise parachute deployment

TECHNICAL EXPERIENCES

Korotu Technology Inc, Toronto, ON

May 2023 - April 2024

Software Engineer and Consultant

- Led development of a CI/CD automation suite using Playwright, GitHub Actions, and PyTest, reducing regression testing time by 95.83%.
- Implemented a random forest regressor with scikit-learn to accurately estimate Canadian tree canopy heights using satellite GIS data.

Trulioo Information Services Inc, Vancouver, BC

May 2022 - Aug 2022

Software Engineer Intern

- Built scalable front-end components using TypeScript and ReactJS
- Migrated legacy ASP.NET services, improving system performance and security