

Tareq Alansari

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EDUCATION

The University of British Columbia (UBC)

BASc in Computer Engineering | Dean's List

Expected Graduation: 2025

SKILLS

Languages TypeScript · Python · Kotlin · Java · C · C++ · SystemVerilog · Assembly · Bash · Swift · LaTeX

Tools & Software AWS · GDB · Docker · JupyterNotebook · Git · Figma · Final Cut Pro X · Adobe Creative Cloud · Microsoft 365

Frameworks & Libraries ROS2 · PyTorch · Pandas · OpenCV · Selenium · NumPy · SciPy · Node · Nextjs · Express · React

EXPERIENCE

Robotics Intern

SKYDWELLER TECHNOLOGIES

January 2025 - Present

Vancouver, BC

- Spearheaded a team of 5 in developing an autonomous navigation system for industrial drones
- Designed a Hardware Abstraction Layer and engineered a sensor fusion package using open-source ROS2 drivers
- Building ROS2 packages for SLAM-based autonomous navigation and adaptive path planning
- Implemented GPU acceleration passthrough for a WSL-Docker container, increasing the FPS in simulation 15-fold

AI Training

SCALE AI

May 2024 - August 2024

Remote

- Enhanced the performance of various LLM's by providing high quality, accurate training data
- Contributed to AI-generated code improvements by analyzing and scoring LLM outputs from human interactions

Mathematics UTA

UNIVERSITY OF BRITISH COLUMBIA

September 2023 - April 2024

Vancouver, BC

- Led and facilitated 4 undergraduate Calculus I and II courses, including lecturing, tutorials and grading
- Created supplementary resources, including 10+ Manim animations, to aid understanding of core concepts

Software Developer Intern

TRAFALGAR LUXURY GROUP

May 2023 - August 2023

Dubai, UAE

- Developed 4 interactive Power BI dashboards, enabling data-driven business decisions
- Automated employee incentive calculations using DAX, reducing processing time by 50%

PROJECTS

Conditional PixelCNN++ | Python · PyTorch · Deep Learning · Generative · Classifier

February 2025 - April 2025

- Built a Conditional PixelCNN++ model for class-conditional image generation and classification tasks
- Achieved 80% classification accuracy on the test set and an average FID score of 25 for generated images

Tempest Android App | Kotlin · Firebase · AWS · Android Studio

January 2025 - April 2025

- Launched an android app that alerts users of nearby extreme weather events
- Integrated real-time weather data via Ambee and OpenWeather API's

Autonomous Racing Car | ROS2 · C++ · Python · CMake · Docker · SLAM · Path Planning

September 2024 - January 2025

- Developed multi-agent autonomous racing cars using ROS2
- Implemented multiple high-performance path planning algorithms using SLAM, PID controllers, and occupancy grids

DNN Hardware Accelerator | SystemVerilog · C · Quartus Prime · Platform Designer · FPGA

October 2024 - December 2024

- Optimized a hardware accelerator for a multilayer perceptron using Avalon protocol on a Nios II-based FPGA System
- Achieved a 10x inference speedup compared to a software-based implementation

JARVIS | Python · SR · TTS · NLP · Large Action Model

May 2024 - September 2024

- Multimodal AI assistant integrating speech recognition, natural language processing and text-to-speech systems
- Utilized Faster-Whisper for up to 4x faster text-to-speech processing compared to OpenAI's WhisperModel
- Utilized the Groq API for its natural language processing speed and streaming output for seamless conversational flow

RISC-V Machine | SystemVerilog · Quartus Prime · ModelSim · Assembly

September 2023 - December 2023

- Devised and built a pipelined, Turing-complete RISC-V processor with a custom ISA using synthesizable SystemVerilog

Activities

UBC UAS - Worked on the Unmanned Aerial Systems engineering design team to develop an Object Detection Localization and Classification system using OpenCV and PyTorch to autonomously detect landing pads

Dev Blogs - Maintaining dev blogs related to Deep Learning, daily leetcodes, and other technical projects

Sports & Fitness - Focused training for climbing, calisthenics with other supplementary sports: skiing, mountain biking, soccer and long distance running