SALMAN HAJIZADA

Computer Science @ Carnegie Mellon

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EDUCATION

Carnegie Mellon University

B.S. in Computer Science

2023 – 2027 | Doha, Qatar

GPA: 3.97/4.00 **Dean's List:** 5 semesters
Qatar Foundation Tamaiuz Scholarship
Selected Coursework: Algorithm Design & Analysis, Computer Systems, Cloud Computing, Embedded Systems, Functional Programming, Great Ideas in Theoretical CS, Machine Learning, Computer Vision, Collective Intelligence, Probability Theory, Linear Algebra.

PUBLICATIONS

Benchmarking Metric Depth for Construction Perception: Industrial Rebar Scenes with Exact Synthetic Ground Truth
IROS 2026 Construction Robots Workshop | First author
Spotlight paper: top 3 accepted submissions

Beyond Unit Tests: Path-Aware Rubric-Guided LLM Autograding of Notebooks
IEEE TALE 2026 | First author | **Accepted**

PROJECTS

Autonomous Robotics (Independent Study)
- Built perception, reasoning, and planning components for autonomous navigation in ROS and Gazebo.

Snoonu Smart Dispatch
- Built a multi-agent dispatch simulation at the Snoonu Hackathon using combinatorial bidding; reduced required fleet size by 14% while maintaining sub-15min delivery times.

BusTub Database Systems (C++)
- Implemented a concurrent buffer pool manager and a concurrent B+ tree index.
- Built external merge sort and Grace Hash Join operators.

TECHNICAL SKILLS

Programming: Python, C, C++, Rust, JavaScript, SQL, Bash, SML, HTML/CSS
ML & Data: PyTorch, TensorFlow, Keras, NumPy, Pandas, Jupyter, LangChain
Tools: Git, Linux, FastAPI, Selenium, ROS, LaTeX
Spoken: English, Russian, Azerbaijani

ACTIVITIES

- **President** (2025–26) and **Treasurer** (2024–25) of the CMUQ Muslim Students Association. Led an 18-person executive team running weekly community, religious, and outreach events for the campus.
- Mentored high school students in introductory programming and CS fundamentals at Mindcraft CS Workshop.

EXPERIENCE

Undergraduate Researcher

CMU-Q Summer Undergraduate Research Program

Summer 2026 | Doha, Qatar

Advisor: Prof. Gianni Di Caro
- Built a synthetic industrial rebar dataset and a metric-depth benchmarking pipeline with exact ground truth.
- Benchmarked monocular depth models against stereo and multi-view approaches; analyzed failure modes on repetitive industrial geometry.
- First-authored and presented an IROS 2026 Construction Robots workshop paper selected as a spotlight (top 3 accepted submissions).

AI Engineer Intern

Avey

May 2025 – Aug 2025 | Doha, Qatar

- Wrote a FastAPI service exposing transformer embedding and retrieval endpoints, used inside Avey's LangChain workflows for medical text.
- Fine-tuned transformer models on healthcare text for embedding, classification, and retrieval tasks.
- Wrote PyTorch training and evaluation scripts; packaged the trained models for use by other Avey engineers through internal APIs.

Machine Learning Intern

Avey

May 2024 – Aug 2024 | Doha, Qatar

- Fine-tuned transformer models for clustering and classification of clinical text.
- Compared candidate embedding models using clustering and classification metrics on Avey's medical text data.

Software Engineering Intern

OpenStack

Jun 2024 – Aug 2024 | Remote

- Contributed two upstream-merged OpenStack SDK patches for bare-metal virtual media attach/detach and VIF attachment using port and port-group UUIDs.

Teaching Assistant

CMU in Qatar

Spring 2024 – Present

- Head Teaching Assistant for 15-122 Imperative Computation (Sp 2026). Led the teaching assistant team, administered Autolab, and managed course operations and assignment releases.
- Head Teaching Assistant for 15-112 (Sp 2025). Also served as a teaching assistant for 15-288 ML in a Nutshell (Sp 2026), 15-122 (Sp 2025), and 15-112 (Sp + Su 2024). Supplemental Instruction for 15-112 (Fall 2024).
- Built a path-aware, rubric-guided LLM notebook autograder used in a CMU-Q course; first-author paper accepted at IEEE TALE 2026.