Ali Salamatian

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Summary

Computer Science Honours student **(4/4 GPA)** with research experience in Natural Language Processing (NLP) and Computer Vision (CV), including a **first-author paper at EMNLP**. Interested in pursuing research on **multimodal models**, leveraging hands-on experience from internships at **Amazon** and **Mastercard**.

Education

University of British Columbia September 2021-May 2026

Bachelor of Science, Computer Science Honours *Vancouver, BC*

- **Cumulative GPA: 4/4**
- Coursework: Machine Learning (98%), AI (97%), Computer Vision (93%), NLP (97%), Optimization (96%)

Publications

- **Ali Salamatian**, Amirhossein Abaskohi, Wan-Cyuan Fan, Mir Rayat Imtiaz Hossain, Leonid Sigal, and Giuseppe Carenini. *ChartGaze: Enhancing Chart Understanding in LVLMs with Eye-Tracking Guided Attention Refinement.* **EMNLP 2025 Main Conference** (paper link).

Experience

University of British Columbia May 2024 – Current

Research Assistant Advised by Leonid Sigal, Giuseppe Carenini, Evan Shelhamer, and Cyrus Neary *Vancouver, BC*

- Introduced *ChartGaze*, the first large-scale eye-tracking dataset for chart question answering.
- Proposed a gaze-supervised attention refinement method that aligns **large vision-language models' (LVLMs)** attention with human gaze, improving model accuracy and interpretability.
- Led experiments showing our model's **improved performance in low-data settings** and stronger focus on semantically meaningful chart regions.
- Co-authored a tutorial on transformers, LLMs, and chart captioning presented in AVI 2024 (tutorial link).
- Ongoing: Developing *LookWhen*, achieving **significant savings in attention computation** by temporally selecting video frames and spatially selecting patches without ever processing the entire high-resolution frames.
- Ongoing: Improving **vision-language-action** model robustness using Monte Carlo Tree Search and a value estimator to optimize robotic action selection.

Amazon May 2025 – Aug 2025

Software Engineer Intern | ***Java, Lambda, Q CLI*** *Vancouver, BC*

- Designed a scalable, secure, and cost-efficient migration plan for internal secret storage.
- Increased canary test coverage by **19.5%** without impacting execution time.
- Refactored test repository leveraging Q CLI, improving maintainability, efficiency, readability, and consistency.

Mastercard, Data Services Department May 2023 – August 2023

Software/Data Engineer Co-op | ***Python, PySpark, Java Spring Boot*** *Vancouver, BC*

- Recognized with the **Innovation Week Award** for enhancing the speed and accuracy of information retrieval by developing a chatbot using Retrieval Augmented Generation (**RAG**).
- Developed an accurate K-means customer segmentation model, improving marketing strategies.
- Enhanced scalability and performance of large-scale data analysis by migrating from pandas to PySpark, resulting in **33% faster** client profiling and benchmarking.

Mastercard, Decision Management Platform May 2022 – December 2022

Software Engineer Co-op | ***Java Spring Boot, SQL, Jenkins, Angular*** *Vancouver, BC*

- Re-implemented and deployed an application to Pivotal Cloud Foundry, enhancing scalability and maintainability through a **microservice-based design** and automated Jenkins pipelines.
- Introduced **automation** by developing a feature that updated over 600 rules in production.

Awards

- Undergraduate Student Research Awards (USRA) May 2024–August 2024
- Trek Excellence Scholarship (**top 5% of faculty of science**) September 2022 and 2025