Cameron Beattie

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Summary

Graduate Computer Science student with experience developing data-driven and interactive systems through academic and collaborative projects. Skilled in Java, Python, JavaScript, C, and R, with strong foundations in software engineering, user interface design, and data analysis. Passionate about building reliable software and translating research ideas into practical solutions.

Education

Master of Science in Computer Science *Sep 2025 – Expected completion: Spring 2026*
University of Saskatchewan

Bachelor of Science Honours in Computer Science *Sep 2021 – May 2025*
University of Saskatchewan
High Honours

Experience

Undergraduate and Graduate Research Assistant *May–Aug 2023, 2024, 2025*

- Designed and implemented interactive systems using JavaScript, HTML, and Python for user performance studies.
- Analyzed behavioral datasets (R, Python) to extract statistically significant patterns.
- Built experimental prototypes and automated data collection pipelines.
- Co-authored three academic papers presenting results of research projects (one paper published, two in progress).

Teaching Assistant *Sep–Dec 2025*

- Supported 60+ students in CMPT 381 (GUI Implementation), delivering tutorials and debugging JavaFX projects.
- Provided technical mentorship emphasizing event-driven programming and UX design.

Selected Projects

BEAP Engine Web Application

- Collaborated in an 11-member team to modernize a data ingestion pipeline (Python, Docker) for wearable sensor data used in Machine Learning analysis, improving processing speed and maintainability.
- Followed strict development strategies and practiced common Quality Assurance techniques.
- Learned and practiced tools and frameworks like React, Jest, REST, etc.

Multiplayer Networking Architecture – Snake Game Research

- Implemented and benchmarked multiplayer networking models (client-server, host-based, distributed) in JavaFX; evaluated latency, reliability, and scalability under simulated network conditions.

The Effect of Cue Type on Comparison Performance in Charts

- Studied how visual cues affect chart comprehension and comparison performance.
- Conducted literature review, developed experimental tools, and co-authored a paper.

Understanding and Improving the Performance of Action Pointing

- Investigated a new interaction technique for moded actions through exploratory prototypes.
- Designed and ran 3 user studies, analyzed data, and co-authored a published paper.

Investigating the Design and Performance of Letter Chords

- Researched a novel typing technique using letter chords for command entry.
- Built study tools, analyzed user performance, and collaborated on a research paper.
- Presented research at Research Fest 2025 and SURE 2025

Improving Visual Search with Gaze-Based Image Manipulation

- Collaborated on research exploring gaze-based image manipulation techniques to reduce distractors in visual search tasks.
- Worked with an eye-tracker, and implemented traditional image manipulation methods.
- Designed, programmed, and ran an in-person user study.
- Presented research, and co-authored a conference-style paper.

Volunteering

Sci-Fi Girls Camp (June 2024, June 2025) – Led hands-on HCI workshops for elementary students at Sci-Fi Girls Camp, introducing STEM concepts and interactive systems research.

Skills

- Languages: Java, Python, JavaScript, C, Bash, R
- Frameworks/Tools: Docker, Git, JUnit, Node.js, React
- Data & ML: R (data analysis, visualization), NumPy, Pandas
- Systems: Operating Systems, Computer Networks, Cybersecurity fundamentals
- Soft Skills: Technical communication, teamwork, presentation

Awards

- Dean's List (2022–2023)
- High Honours (C.W.A. average over 75% and a Major Average over 80%)
- NSERC USRA (2025)

References

Available upon request