Kieron von Buchstab

Aerospace Engineering Student

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Ottawa, Ontario

Seeking an engineering student role to apply my expertise in systems engineering,, programming, and research methodologies to contribute to innovative, large-scale projects.

Education

Carleton University, Ottawa, Ontario || Bachelor of Engineering, Aerospace || Class of 2026
Pierre Elliott Trudeau High School, Markham, Ontario || Class of 2021

Skills

Hard skills	Soft skills
Programming: Proficient in Python, Pandas, NumPy, PyXML; Knowledgeable in OOP; Built multi-threaded programs.	**Collaboration:** Experienced in working with interdisciplinary teams and coordinating across departments to achieve project goals.
Research Methodologies: Skilled in designing and executing research projects, including hypothesis testing, exploratory data analysis, and simulation.	**Communication**: Strong ability to communicate complex research findings clearly to both technical and non-technical audiences.
Data Analysis: Experienced in analysing and manipulating large datasets using Python, Pandas, and NumPy.	**Problem-Solving:** Adept at tackling open-ended research problems and developing innovative solutions.

Publications

Full list of publications available at kieron.ca/pubs

- von Buchstab, K., & Milam, J. (2023). *Commercial off the shelf ground stations for use in rapid testing and innovation of space systems*.
  - Studied the use of ground stations for weather and agriculture predictions
- von Buchstab, K., Jurgutis, A., Lear, A., Jazebizadeh, H., & Burlton, B. (2022, September 2). *The Receipt and Analysis of Weather Data in a Simulated Martian Environment*. International Astronautical Congress 2022.
  - Presented in Paris, France - Analysed the effects of weather on Mars, demonstrating strong analytical and presentation skills.
- Jurgutis, A., Lear, A., Murray, M., von Buchstab, K., Jazebizadeh, H., & Burlton, B. (2022, September 20). *Design, Verification, and Validation of the Communication System of an Undergraduate CubeSat Mission*. International Astronautical Congress.
  - Explored the development and use of a student-built ground station, showcasing project management and technical skills.

Career History

Lockheed Martin - Systems Engineering Intern

May 2023 - Present

- **Led data-driven research efforts** to optimise the certification and integration of systems on the Canadian Surface Combatant, utilising Python and Pandas to analyze large datasets for system compliance and operational efficiency.
- **Developed data analysis workflows** using Python, Pandas, and Excel to track integration progress, contributing to overall project success.

- **Collaborated with cross-functional teams** (seamanship, communications, safety) to align technical research findings with broader project objectives, ensuring consistent progress across departments.
- **Facilitated certification processes** by managing cross-functional meetings with various departments, including communications, safety, and navigation, to maintain alignment on certification goals and milestones.

MyRide901 - Social Media Manager
January 2021 - September 2021

- Designed and created multimedia content for social media platforms.
- Wrote engaging captions for posts on Instagram and Facebook.
- Analysed social media insights to target various demographics, improving engagement.

Professional Services Plus - Administrative Assistant
April 2019 - January 2021

- Tabulated and processed accounting data using Microsoft Excel.
    - Received, processed, and inputted accounting data into Excel spreadsheets.
    - Maintained the accounting database, ensuring accuracy and error prevention.
- Organised and reviewed monthly invoices.
    - Physically organised invoices by date and ensured no discrepancies.
    - Reviewed each invoice for errors and ensured accurate record-keeping.

Experience

Carleton University Satellite Design Project Capstone (CuSAT)
Nov 2021 - Present

The Satellite Design project is a final year project at Carleton University where students are tasked with designing a small satellite for use in detecting forest fires. I started working on this project in my first year, assisting fourth year students in building a ground station to communicate with satellites. Eventually I took over ground station development.

- **Led research and development** of a satellite ground station for fire detection, conducting simulations and analysing performance metrics to refine system design.
- **Developed custom algorithms** in Python and C++ for auto-tracking, driving innovative solutions in geostationary satellite positioning.
- **Conducted data analysis and research** into satellite communication systems, contributing to the optimization of tracking accuracy and signal reliability.
- **Managed the end-to-end research lifecycle,** including hypothesis development, testing, and data analysis, to inform system upgrades and performance improvements.

Scholify - Founder
June 2023 - Present

Scholify is a publishing company focused on publishing research papers for undergraduate university students, though research is accepted from all over. It was started in June 2023 to publish my own research papers as an undergraduate student.

- **Developed and maintained** a platform for publishing academic research, overseeing the technical infrastructure and financial management of the site.
- **Managed research submissions**, evaluated academic papers, and ensured publication standards aligned with research integrity.
- **Collaborated with researchers** to refine methodologies and contributed to the broader academic community by fostering access to undergraduate research papers.