Kieron von Buchstab

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Aerospace Engineering | Software | Hardware | Systems **TN-Eligible**

Aerospace engineering student with 3+ years of experience in systems integration, research, and data-driven engineering. From satellite communications to full-stack technical tools, I've built solutions across hardware and software. Ready to contribute to engineering teams tackling complex technical challenges.

Education

Carleton University | Bachelor of Engineering, Aerospace | Expected May 2026

Publications

Full list of publications available at kieron.ca/pubs

- **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 at IAC 2022 in Paris
- **von Buchstab, K.**, & Milam, J. (2023). *Commercial off the shelf ground stations for use in rapid testing and innovation of space systems*.
- 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

Experience

Lockheed Martin - Systems Engineering Intern

May 2023 - Present

- **Led laser systems certification effort**, coordinating across LMC, Irving Shipbuilding, and National Defence to verify compliance of all shipboard laser equipment
- **Chaired cross-functional technical risk review sessions**, managing updates to risk registers and tracking open items across engineering teams
- **Automated data extraction** and synthesis using Python and Excel, consolidating multiple certification databases into a unified source of truth for the Canadian Surface Combatant program
- **Built custom tools** to streamline technical standards review by cross-referencing datasets and flag contradictions, improving accuracy and reducing manual review time
- **Worked in IBM DOORS, Python, Excel, VBA, and Visio** in support of certification and integration workflows; led daily scrums and contributed to agile delivery milestones

Carleton University Satellite Design Capstone (CuSAT) - Ground Station Lead

Nov 2021 - Present

- **Led development and ongoing maintenance of a mobile satellite ground station** for CubeSat communications; successfully received and processed signals from NOAA satellites including GOES-16 and NOAA-15

- **Designed and installed mechanical components** using SolidWorks and OnShape, including custom 3D-printed gears, couplers, and mounts to improve pointing accuracy
- **Refactored electrical systems** by eliminating wire clutter, integrating custom soldered boards, and implementing improved power management and signal routing
- **Enhanced station control software** by expanding GUI functionality (PyQt), implementing a spiral search algorithm, and integrating GPredict tracking through Python
- **Programmed embedded C++ firmware** for Arduino-based hardware control, enabling wireless command execution and real-time feedback between GUI and motors
- **Led a cross-functional team**, overseeing subsystem coordination, onboarding, budgeting, and iterative testing across hardware, software, and comms layers

Carleton Rocketry Team (CU InSpace)- Payload & Aerostructures Member
Oct 2021 - Apr 2023

- **Co-led airbrake development** in early stages of the project, contributing to CAD iterations and aerodynamic testing for flight stabilization
- **Designed rocket-to-ground RF communications system** for a competitive rocket; calculated link budgets and coordinated with avionics, software, and structural teams to ensure feasibility and integration
- **Assisted in nose cone fabrication** using fiberglass and epoxy resin; supported hands-on manufacturing of composite components and learned rapid prototyping under real-world constraints

Startups

Star Cove – Founder (Concept Stage)
Apr 2024 – Sept 2024

- Developed business model for a 0.5% ABV seltzer targeting young adults; conducted field research by interviewing producers, distributors, and Ontario's Ministry of Agriculture
- Performed market analysis and scoped distribution strategy via direct-to-consumer channels, social media, and campus rep programs

Scholify - Founder (Dormant)
Jun 2023 - Present

- Built and launched an academic publishing site for undergraduate research; managed submission pipeline, site content, and review standards
- Oversaw platform operations, including site maintenance, financials, and publishing

Skills

- **Programming:** Python, C++, VBA, OOP, PyQt, NextJS
- **Data & Analysis:** Pandas, NumPy, Excel (Advanced), IBM DOORS
- **Engineering Tools:** SolidWorks, Catia, OnShape, Arduino, Git
- **Systems & Hardware:** Satellite Communications, RTL SDR
- **Soft Skills:** Team Leadership, Technical Writing, Agile/Scrum, Cross-functional Collaboration