SHENG KUN (JASON) ZHOU

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EDUCATION

M.S. in Aeronautics & Astronautics | **University of Washington**

September 2023 - Present GPA: 3.93/4.0

Controls specialization, advised by Dr. Behçet Açıkmeşe

Key Courses: Robust Control, Convex Optimization, Linear & Nonlinear Systems Analysis, Numerical Linear Algebra, Applied Aerodynamics

B.ASc. in Engineering Physics | **University of British Columbia**

Awarded June 2023, with **Distinction** GPA: 3.7/4.0

Key Courses: Control Systems, Robotics Design, Algorithms and Data Structures, Machine Learning, Digital & Analog Circuits Design

EXPERIENCE

Graduate Research Assistant | **Autonomous Control Laboratory - UW Seattle**

September 2023 - Present Seattle, WA

- Led end-to-end development of autonomous aerial systems, including airframe design, embedded integration, and flight validation
- Tuned and applied **SCP**-based trajectory optimization algorithms and **6-DoF feedback controllers** for custom aerial vehicles
- Brought up and integrated a custom flight-compute stack using **Raspberry Pi CM4**, **STM32H7**, and **iCE40 FPGA**
- Integrated and adapted **PX4** on a custom flight computer under **NuttX RTOS**, debugging hardware–software interfaces

Software Integration Engineer Intern | **Tesla, Inc.**

October 2021 - August 2022 Palo Alto, CA

- Integrated and validated **safety-critical** steering ECU software across multiple production vehicle platforms
- Developed a **Python**-based **HIL test framework** enabling automated fault injection testing and data collection
- Implemented and validated new **CAN interfaces**, integrating steering ECUs with other vehicle subsystems
- Developed automated steering calibration routines, reducing process time from $>$10 minutes to $<$15 seconds

Computer Vision Engineer Intern | **Verdi AG**

September 2020 - December 2020 Vancouver, BC

- Built end-to-end pipelines for satellite imagery analysis, including feature extraction, clustering, and temporal modeling
- Implemented and evaluated sequence models (LSTM) for forecasting crop outcomes with $>$90% accuracy

PUBLICATIONS

[1] Skye McEowen, Daniel J. Calderone, Aman Tiwary, **Jason S. K. Zhou**, Taewan Kim, Purnanand Elango, and Behçet Açıkmeşe. *Auto-Tuned Primal-Dual Successive Convexification for Hypersonic Reentry Guidance.* Journal of Guidance, Control, and Dynamics, vol. 48, no. 9, pp. 2020–2040, 2025.
(Earlier version appeared in *AIAA SCITECH 2025*, AIAA 2025-1317. **Best AFM Paper, Best Graduate Paper**)

[2] Benjamin Chung, Rajeev S. Voleti, and **Jason Zhou**. *Julia Programming for Real-Time Flight Control on Embedded Platforms.* In *AIAA SCITECH 2026 Forum*, AIAA 2026-2767, January 2026.

COMPETITIONS

Citadel Global Data Open - 3rd Place 2021

Python • Regression Analysis • Economic Simulation • Data Analysis • Data Scraping and Visualisation

Citadel West Coast Data Open - 1st Place 2021

Python • Regression Analysis • Clustering • Data Analysis • Data Scraping and Visualisation

SKILLS

Programming	Python, C++, C, MATLAB; Linux, Git
Controls	Trajectory optimization, numerical linear algebra, feedback control, CVXPY
Embedded Systems	RTOS (NuttX), STM32, FPGA (Verilog), debugging (GDB, STLink)
Robotics & Simulation	PX4, ROS, MAVLink, OpenVSP
Hardware Integration	3D Modelling, PCB design, embedded bring-up, rapid prototyping