ARNAB SINHA

Flight Simulator Engineer (Alaska Airlines)

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STRENGTHS

- Problem-Solving
- Detail Oriented
- Time Management
- Teamwork / Communicator
- Adaptive Learning

LANGUAGES

Fluent in oral/written:

1: **English**
2: **Français**
3: **Bengali**

Learning:

4: **Spanish**

PROUD OF

Private Pilot
First Solo C-172 FHCF (Nov. 13, 2024)

Conference Speaker
Presented thesis paper at the AIAA SciTech (2024) in Orlando, FL.

NSERC Award
Undergraduate Summer Research Award (USRA) + FQRNT Supplements. Top 15% of program. (2020-22)

REFERENCES

Prof. Andrew J. Higgins
Thesis Supervisor, Eng. Prof.
@ andrew.higgins@mcgill.ca

Domenico Di Luca
CAE Manager
@ domenico.diluca@cae.com

Johnathan Vairogs
Flight Instructor
@ vairogs@gmail.com

PROFESSIONAL SUMMARY

- **Professional Eng.** @ Ordre des Ingenieurs du Quebec.
- **Pilot:** 85h flight time
- **Software:** Python, C/C++, Lua, MATLAB | **Design:** Solidworks, Fusion360

EXPERIENCE

Flight Simulator Engineer | Alaska Airlines

09 2025 - Present Hawaii, USA

Device owner for B787-9 CAE XR550 FTD, A330 CAE 7000XR FFS

- Assisted FAA Qual. for B787,A320,A330,B717 and FAA certification for B787 FTD
- Coordinated with OEMs and suppliers (L3Harris) to validate software fixes and regression behavior for 11 crew-impact discrepency reports. Regression testing.
- Supported flight training operations for site simulator reliability greater 98.5%
- Perform flyouts for **verification/validation** of the sim. to ensure quality pilot training.

Flight Simulator Software Specialist | CAE

05 2023 – 09 2025 Montreal, Canada

- **System specialist** for A330-350-380 Ancillary Systems, with experience in Navigation/Flight-Surveillance and Engine system.
- System testing (V&V) to support in-plant acceptance of Airbus simulators (330-350)
- Coordinate with OEMs (Honeywell, Thales) for avionics software troubleshooting.
- Analyze CAD, wiring diagrams, system documents for flight system troubleshooting
- **Developed software** (C/C++) systems such as industry's first Pilot Support System for a350 Emirates, developed refuel interface for A330 Malaysian, debugging issues.
- Consistent delivery of sprint (> 85%) and clearing JIRA backlog. **Agile** scrum

Research Assistant | McGill University

05 2020 – 08 2023 Montreal, Canada

- **Team lead** for stratospheric balloon-borne cubesat research: CAD (Solidworks, AutoDesk 360) soldering electronics, integrating avionics, sensors, and PCB's
- **Modeling** (Python, MATLAB), 3-DOF trajectory simulations for Mars aerocapture, and engine Isp numerical solutions for laser-thermal rockets
- Research Work Portfolio link (Pictures of design and stratospheric flight video)

EDUCATION

BSc. Mechanical Engineering (Honors) | McGill University

09 2019 - 05 2023 Montreal, Canada

GPA: 3.70 / 4.00

- McGill Rocket Team - Stratospheric Balloon Design & Recovery Team
- Flight trajectory prediction simulations, 3 DOF model accounting wind (Python) .

PUBLICATIONS

- Arnab Sinha, Caileigh Bates, Xavier Duchesne, Mathias Larrouturou and Andrew J. Higgins. "Thermal Environment Provided by a High-Altitude Balloon Payload Shielded from Terrestrial Radiation," AIAA 2024-2524. AIAA SCITECH 2024 Forum. Jan 2024.
- Duplay, E., Bao, Z.F., Rosero, S.R., Sinha, A. and Higgins, A., 2021. Design of a rapid transit to Mars mission using laser-thermal propulsion. Acta Astronautica, etc.