KHANG NGUYEN

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Education

Bachelor of Applied Science in Engineering Science
University of Toronto, Toronto, Ontario (Sep. 2020 – Present)

- Major: Aerospace Engineering
- PEY Co-op Program

Ontario Secondary School Diploma (Ontario Scholar)
Barrie North Collegiate Institute, Barrie, Ontario (Sep. 2017 - Jun. 2020)

Skills

- **Programming language:** Python, MATLAB, and C
- **Software development tools:** GitHub, VSCode
- **Modelling Software:** Fusion 360, AutoCAD, and SolidWorks
- **Simulation Software:** Simulink and AGI System Tool Kit (STK)
- **Microsoft Office:** Excel, Word, and PowerPoint.
- **Design Language:** HTML, CSS, and KIVY framework.
- **Document Preparation Software:** LaTeX, Markdown
- **Hardware Skills:** Soldering, Raspberry Pi, Arduino, 3D printing

Professional Experience

Guidance, Navigation and Control (GNC) Software Developer (May. 2022 – Aug. 2022)
Astris Aerospace Inc, Toronto, Ontario

- Created the open-source pure Python library ACS Toolbox for Attitude Control System (ACS) design.
- Developed 0.01-degree accuracy astrodynamical model for high precision analysis using Python.
- Created unit tests for ACS Toolbox for version control on GitHub.
- Analyzed and validated astrodynamical model using AGI System Tool Kit (STK).
- Wrote application program interfaces and reports using Latex and Markdown.

Attitude Determination and Control Systems Lead (Oct. 2020 - Present)
University of Toronto Aerospace Team, Toronto, Ontario

- Manage a team of 15 engineering students to develop the attitude determination and control system for the FINCH satellite mission.
- Develop MATLAB, Python, and C scripts for Guidance, Navigation, and Control applications in-orbit.
- Create an ADCS simulator to analyze pointing budget and hardware sizing.
- Use MILS, SILS and HILS frameworks to perform hardware and software testing.
- Work cross-functionally with other teams, including Structures, Electrical, Thermal, Payload, Firmware, AIT and Mission Operations.
- Create presentation for Preliminary Design Review (PDR) and Critical Design Review (CDR) and present to advisors.

String Mechanic, Head Tennis Instructor and Event Organizer (May. 2022 - Present)
University of Toronto Tennis Club, Toronto, Ontario

- Counsel tennis players about racket technology such as racket type, string tension and string type.
- Operate mechanical stringing machine to customize tennis racket string tension.
- Teach players of various skill levels swing mechanics and provide performance motivation.
- Organize tennis tournaments for the University of Toronto community.

Health And Safety Site Manager (Jun. 2021 – Aug. 2021)
STEM Camp, Barrie, Ontario

- Managed the health and safety of staff and campers on site.
- Delivered engaging and educational STEM Camp experiences through scientific activities.
- Lead students aged 5-13 in learning the basic principles of coding using Scratch.
- Collaborated with other counsellors to ensure sessions were creative and interactive.