Kenny Zhao

kennyzhao2004@gmail.com 437 226 6831 Markham, Ontario website linkedin github

EXPERIENCE

Lead Software Engineer 09/2023 – Present
McMaster Interdisciplinary Satellite Team, Satellite Manufacturer Hamilton, Canada
- Lead of the **Mission Operations and Control (MOC)** team as a **software engineer**, responsible for **storing**, **visualizing**, and maintaining satellite **data**, as well as scheduling and executing commands during operations
- Manage the reception, parsing, and storage of experimental data, utilizing **Python**, **C** and telemetry from ground station(s), resulting in a **67%** increase in operational efficiency

Software Engineer 05/2025 – 08/2025
Canadian Space Agency, Government Institution Longueuil, Canada
- Designed and executed automated test procedures for **microbolometer** detectors in the TICFIRE project, leveraging **Python**-based test scripts and **data processing pipelines** to analyze over **150** hours of performance data in **IR** calibration environments
- Developed and maintained software for embedded system **validation**, integrating **C** and **Python** tools to streamline **data acquisition**, automate hardware-in-the-loop testing, and improve test execution efficiency by **20%**

Systems Engineer 01/2025 – 04/2025
Canadian Space Agency, Government Institution Longueuil, Canada
- Developed **technical documentation** for the **TICFIRE** project, ensuring compliance with **NASA**, **CSA**, and contractor standards to maintain **consistency** and **regulatory alignment** across stakeholders
- Designed and analyzed optical systems using **MATLAB**, enhancing test accuracy by **50%** and producing technical reports that **optimized** testing procedures and accelerated **R&D** efforts

Research Data Engineer 05/2024 – 08/2024
McMaster University, Public Research Institution Hamilton, Canada
- Led software development efforts as a research **Data Engineer** at the McMaster Interdisciplinary Satellite Team, overseeing the creation of Mission and Operations Control Software for the team's **CubeSat** project, PRESET
- Engineered a robust Dashboard for the team's HASP 2024 test integration and flight in Texas using **React**, **Python**, **InfluxDB** and **Grafana** to facilitating communication with the satellite for enhanced data visualization and transmission resulting in a **30%** increase in data accessibility and efficiency

EDUCATION

Honours Bachelor of Applied Science in Computer Science with Minor in Statistics 09/2022 – present
McMaster University, CGPA 3.8/4.0 Hamilton, Canada

PROJECTS

Charting Exoplanet Habitability - A Celestial Classifier 09/2024 – 12/2024
Python, PyTorch, NumPy, Scikit-Learn, Pandas, Neural Networks, Machine Learning
- Developed a **Neural Network**-based model to classify exoplanets as habitable, non-habitable, or unknown, achieving **90%** prediction accuracy with efficient training in just **150** epochs
- Leveraged advanced frameworks and libraries to ensure efficient and scalable implementation, including **Python**, **PyTorch**, **NumPy**, **Scikit-learn**, and **Pandas** for data preprocessing, feature extraction, and model development

heAR - Augmented Reality and NLP for Enhanced Communication 09/2022 – 09/2022
Python, Flask, Co:here, AR, Heroku, C#, Unity, Git, AI, NLP
- Collaborated within a 4-person team at the Hack The North 2022 hackathon, to develop an augmented reality **Natural Language Processing (NLP)** application capable of real-time speech summarization
- Utilized **Python**, **Flask**, and **Heroku** to seamlessly integrate our Unity code in **C#** with Co:here's API, enabling the processing and summarization of speech

SKILLS

- Languages: R, C/C++, JavaScript, HTML, CSS, Python, Bash
- Frameworks/Software: SQL, NumPy, ReactJs, Git, Unix, Slack, Github, Excel, Flask, Project, Confluence, PyTorch, MATLAB