

Nikhil Kalidasu

Portfolio: nik875.github.io **Email:** nikhil.kalidasu@gmail.com **Location:** Austin, TX, USA

Objective: Polymathic Data Scientist Studying AI/ML, Systems Engineering, and Computational Biology, looking to solve new and complex problems in the world's most important systems.

Technical Skills: Python, Java, C/C++, Linux, Git, TensorFlow, PyTorch, Prompt Engineering.

Soft skills: strong work ethic, leadership, communication, scientific writing, management.

Experience

Texas Rocket Engineering Lab – Systems Engineering Lead (2022 – Present):

Performed a flight software audit and communicated code logic to engineers. Characterized and solved the “roll control problem” after actuated fins were cut in favor of TVC. **Key Achievement:** Conducting a thorough requirements review for the world's first collegiate liquid-fueled suborbital rocket.

Engineering and Computational Learning of AI in Robotics – Project Lead (2023 – Present):

Developed a Transformer-based mood tag generator for music lyrics. Currently developing a background music generator for PDFs using GPT-3.5 and Meta's musicgen model. **Key Achievement:** Led a less experienced team and taught necessary AI and Python skills to get projects done on time.

TJ Space – Program Lead (2018 – 2022):

Led the TJ REVERB mission, a 2U Low-Earth-Orbit cube satellite. Contributed over 60% of flight software, coordinated cross-team integration, and inspired a belief that launch was possible. **Key Achievement:** Launched to orbit on schedule despite of a history of delays and COVID-19.

Projects

Independent Research 2022 – Present: Trained a Transformer-based neural network to represent DNA sequences as numerical vectors, and implemented a vectorized search database for DNA sequences.

Smartshell 2023 – Present: Created a “smart” command line shell tightly integrated with ChatGPT.

Publications

TJREVERB: A High School CubeSat Story 2023 IEEE AeroConf: A review of the problems we faced building a CubeSat in high school and our novel solutions to them.

Identifying and Overcoming Challenges in High School CubeSat Programs 2022 Small Satellite Conference: Suggestions for CubeSat program organizations from interviews of 7 high school teams.

Education

University of Texas at Austin: BS, Computer Science (2022 – Present)

Thomas Jefferson High School for Science and Technology: Advanced Diploma (2018 – 2022)