Cameron Huang

1605 Rice Blvd, Houston, Texas, 77005 | (847) 372-3689 | ch185@rice.edu | LinkedIn | Github: CamH123

Education

Rice University, *Houston, TX*   *Anticipated Graduation May 2027*
*Bachelor of Science in **Computer Science**, Minor in **Statistics & Operations Research***
GPA: 4.00
Relevant Coursework: Data Structures & Algorithms, Discrete Math, Linear Algebra, Probability & Statistics, Linear Regression

Skills

Languages & Frameworks: *Python, Java, Javascript, C#, R, Arduino, HTML, CSS, ROS2, Git, Linux*
Other: *Unity; Figma; Solidworks CAD; Excel, Powerpoint, Word; Overleaf LaTeX; AstroImageJ, SAOImageDS9.*

Research and Work Experience

Abbvie PDS&T Data Science Internship   *North Chicago, IL*
Summer Intern   *Summer 2024*
- Engineered a data lake to streamline infusion pump flow rate testing, collecting and analyzing 2200+ files (NumPy, Pandas)
- Developed a novel program to calculate flow rate accuracy by detecting pulse to pulse variations across different flow rates and conditions. Produced reports and graphic visualization on flow rate consistency and variability (Matplotlib, Seaborn)
- Identified programming inconsistencies and collaborated with senior engineers to implement optimization parameters.

SSP: Astrophysics Research at the University of Colorado Boulder   *Boulder, CO*
Researcher   *Summer 2023*
- Developed Python algorithms to extrapolate asteroid trajectories using the Method of Gauss.
- Tracked, processed, and analyzed the near-earth asteroid 1998 RO4 through performing nightly telescopic observations.
- Modeled a 50 million-year simulation of 1998 RO4 using the numerical integration program REBOUND to conduct a risk analysis report on its impact on Earth. Calculated uncertainties using Monte Carlo error propagation.

Projects

Thyroid Disease Doctor
- Implemented a softmax regression classification model from scratch to predict thyroid disease diagnoses based on blood tests.
- Performed hyperparameter tuning and optimization to improve prediction accuracy from 87% to 93%.
- Experimented with machine learning models and neural networks with the PyTorch and Sci-kit Learn Python Libraries.

Campus Involvement

Rice Robotics, *Rover Software Lead*   *September 2024 - Present*
- Leading a 10+ member team in developing computational simulations and models of lunar lava caves in Gazebo and Webots.
- Programming in Python with ROS2 to integrate lidars, cameras, communication, and movement functionality into the rover.

Rice AR/VR - NASA SUITS, *Software and Unity Developer Lead*   *September 2024 - Present*
- Directing a 6+ member team of software engineers in developing an augmented reality interface to assist astronauts with Egress/Ingress and geological sampling procedures on the moon.
- Jointly designed interface with input and iterative updates from human factor psychologists and human-in-the-loop testing.
- Facilitates communication with UI/UX designers, psychologists, and partner researchers from Brown University and RISD.

Rice Eclipse, *Payload Avionics Software Team*   *September 2024 - Present*
- Designing software for a hyperspectral imager to analyze agricultural lands during payload descent after rocket launch.
- Collaborating with electrical and mechanical teams to develop stabilization solutions and a drone simulated testing suite.