Cameron Huang

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Education

Rice University, *Houston, TX* *Anticipated Graduation May 2028*
*Bachelor of Science in **Computer Science**, Minor in **Statistics & Operations Research***
Relevant Coursework: Computational Thinking (Comp 140), Linear Algebra (Math 355), Probability and Statistics (Stat 310)

Libertyville High School, *Libertyville, IL* *Graduated May 2024*
GPA: Weighted: 4.631; Unweighted 4.0
Relevant Coursework: Data Structures and Algorithms, Calculus 3 Honors, AP Physics C: Mechanics and E&M
Honors and Awards: Honor Roll, National Merit Finalist, ICTM Certificate of Achievement, AP Scholar w Distinction

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.
- Presented findings to senior management and broader departments through a poster symposium and powerpoint presentation.

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 Detector
- Built a machine learning model for predicting thyroid disease using a UCI dataset, experimenting with various algorithms (logistic regression, SVM, Decision Trees, Random Forest) and achieving a 94% accuracy rate (Scikit-Learn).

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 Webots.
- Constructing simulations to generate clean and useful data to train a lunar ice detection neural network.
- Programming controllers in Python to integrate lidar sensors, cameras, and movement functionality into the rover simulation.

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.

Rice AR/VR - NASA SUITS, *Software and Unity Developer* *September 2024 - Present*
- Developing an augmented reality interface to assist astronauts with Egress/Ingress and geological sampling procedures.
- Jointly designed interface with input from human factor psychologists and human-in-the-loop testing.

Skills: *Python, Java, R; Solidworks CAD; Figma; Word, Excel, Powerpoint; AstroImageJ, SAOImageDS9.*