

AKHIL REDDY

☎ (732) 666-7264 • ✉ akhil.reddy@rutgers.edu • in akhilreddy • @akhilr77 • 🌐 akhilreddy.me • 📍 Kendall Park, NJ

EDUCATION

Rutgers University • New Brunswick, NJ

September 2020 – May 2024

Bachelor of Science: Computer Engineering

GPA: 3.74/4.0

Second Major: Professional Physics || *Minor:* Mathematics

HIGHLIGHTED COURSEWORK

- **Computer Engineering:** Data Structures, Computer Architecture, Circuits I-II, Digital Logic Design, Network Security, Probability & Random Processes, Discrete Math, Computation for Engineers, Software Engineering, Linear Systems & Signals
- **Physics:** Classical Mechanics I-II, Electromagnetism I-II, Modern Physics, Quantum Mechanics, Thermal Physics, Computer Experimentation, Linear Algebra, Multivariable Calculus, Partial Differential Equations, Classical Physics Lab I-II

SKILLS

- **Programming languages:** Java, Python, Web (HTML/CSS/JavaScript/Typescript), C, C++, Verilog, R
- **Software:** Git, Android Studio, React, Matlab, Mathematica, Maple, Arduino
- **Laboratory:** Multimeter Analysis, Waveform Generator, Digital Oscilloscope, Frequency Counter, LCR Meter

WORK EXPERIENCE

Bhattacharya & Javanmard Lab – New Brunswick, New Jersey

May 2021 – August 2021

Android App Developer

- Analyzed coral reef health by designing an android application that can detect and read RGB values from coral. Applied border detection by designing an algorithm that can check pixel shade.
- Worked with YOLOV4, a one-stage object detection model to train AI to detect this specific kind of coral by loading data from different types. Designed software that understood how coral is reacting to chemical solutions to further analyze health.

Freelance Tutoring

June 2020 – September 2020

- Tutored 20+ high school and undergraduate students in subjects ranging from multivariable calculus and linear algebra to calculus based physics.
- Guided students by explaining test taking strategies, effective note taking, and ways to study for assessments. Also customized lesson plans by identifying student needs and catered to diverse learning styles.
- Taught in different types of settings, from one-on-one instruction to teaching to a group of 5-6 students at a time.

RESEARCH EXPERIENCE

Jalali Lab – New Brunswick, New Jersey

May 2022 – Present

Undergraduate Research Assistant

- Designing algorithms that tried to combat the effect of speckle noise in ISAR imaging. Used compression based sensing to get to the algorithms.

Chandrasekhar Star Modeling – New Brunswick, New Jersey

August 2021 – January 2022

Undergraduate Research Assistant

- Analyzed star temperature data to fit known differential equations & reworked equations to decide if results would work with hypothesized equations. Utilized C and Python to determine correlation between data from Y. Eriguchi's paper to initially proposed equations by Chandrasekhar in 1939.

PROJECTS

NBA Neural Network – Python, NBA API

- Used the NBA API to analyze game stats for the 2021-22 regular & post season. Made a neural network to run the analysis.
- Trained the network by assigning weights to different characteristics such as points, rebounds, blocks. Network can now make real-time game predictions based off mid-game statistics.

Quantum Wavefunction Analysis – Python, Mathematica, ..

- Implemented Schrodinger's equation into Mathematica to get results for the wave-equation for different potential levels. Took the results to python to plot the wavefunctions along the time axis. Had the real, imaginary, and total wavefunctions on the same plot.

EXTRA CURRICULAR ACTIVITIES

Society of Physics Students, Rutgers Chapter

September 2020 – Present

Treasurer

- Responsible for spreading awareness of our club across campus and to local high schools and middle schools. Organized multiple events from demonstrations at elementary schools to professor talks and panels.
- As treasurer, I am responsible for all the finances of the club, from receiving and processing funding to budgeting the monthly spending we have. Also had to keep the records of membership and dues.