ADVAIT PAVULURI

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EDUCATION

Rensselaer Polytechnic Institute   Troy, NY
Dean's Honor List sophomore in Computer Science   2023 - 2027
- **Coursework:** Data Structures, Discrete Math, Comp. Org., Algorithms
- **Focus Track:** AI, Machine Learning & Data
- **Extracurriculars:** Physics mentor for freshmen, Data Structures undergraduate TA
- TJ Watson Memorial Scholarship award
- Renesselaer Leadership Award
- Renesselaer Recognition Award

New Rochelle High School   New Rochelle, NY
High Honor Roll student   2019 - 2023
- Vice President and Treasurer for Robotics Club
- Co-vice President for Computer Science Honor Society
- Presenter in Science Honor Society
- Ignite Mentor for freshmen
- National Honor Society member

INTERNSHIPS

Albert Einstein College of Medicine | Bronx, NY   2022.06 - 2022.07
- Research and analysis using MATLAB to study the correlation between dietary intake and progression of human brain disorders (e.g. Alzheimer's disease). Analyzed the production of butyrate and chenodeoxycholic acid via flux balance analysis and namespace searching.
- Mentored by Dr. Roger Chang in the Einstein-Montefiore H.S. Research Program.

Brookhaven National Laboratory | Upton, NY   2022.06 - 2022.08
- Visualization and curve plotting library in Geant4 to study the effects of radiocative decay for a simulated neutron detector.
- Mentored by Dr. Andrea Mattera @ Nuclear Science & Tech. Dept.

Harvard University Division of Medical Sciences | Cambridge, MA 2021.06 - 2022.06
- "tiavda" - Software to analyze trajectories and fate of single cell to understand its organismal development through AI prediction models.
- Under the guidance of Dr. Luca Pinello and Dr. Michael Vinyard.

PROJECTS

Attention-Based Models for Sequential Recommendation   2024.06 - Present
Prof. Uzma Mushtaque @ RPI, Department of Computer Science
Research and development of an online retail recommendation system using SOTA ML models such as BERT to generate sequential recommendations.

Mai (Minecraft AI)   2024.05 - Present
Research Project
A fully autonomous agent in Minecraft, with capability to have critical thinking skills and the ability to interact with other autonmous Minecraft agents. Using locally hosted IBM Granite and LLaMA 3.1 to make the project cost-effective.

K-Factor: Potassium tracking iOS app   2021.01 - 2023.01
Research Project
Designed, developed and launched an iOS app for tracking daily Potassium and Sodium intake in food, to help patients with hypertension and chronic kidney disease using USDA's API. Research guidance from Dr. Richard Saitta, Chief of Nephrology, Montefiore Hospital. Winner of prestigious Congressional App Challenge 2022, used by patients in multiple nephrology practices.

PROJECTS CONTD.

CKD Educational Infocenter: KidneysMadeEasy.com 2020.08 - 2021.07

Research Project

Developed an intuitive website to assist patients with Chronic Kidney Disease, including videos, fun quizzes and educational material relating to kidney friendly nutrition and lifestyle. This site is used to this day by patients struggling with CKD, in nephrology private practices at New Rochelle.

PEaRL 2018.08 - 2019.05

Team Research Project

Analyzed and built a prototype for reduction of radiation exposure in a Martian habitat by using a novel combination of **P**oly**E**thylene **A**nd **R**ego**L**ith, using NASA's online radiation simulation tool, OLTARIS. Patent pending.

SO-Cu 1.0 2017.08 - 2018.05

Team Research Project

Built a cost-effective device to eliminate Escherichia coli from contaminated water, using a combination of solar disinfection (**SO**DIS) and copper (**Cu**), tested it in a Ossining water treatment plant, studied and reported the effectiveness. Winner of best project award in 2018 FLL Internationals at Razorback, AR.

AWARDS AND HONORS

- **HackRPI X (Hackathon)**, Most Creative Use of GitHub Award — 2023.11
- **New Rochelle Fund for Educational Excellence**, Technology Award — 2023.05
- **Congressional App Challenge**, NY District 16 Winner — 2022.12
- **Sewa International**, President's Gold Volunteer Community Service Award — 2021.08
- **FIRST LEGO League**, Robotics Regional Championship Award — 2020.05
- **FIRST LEGO League**, Best Robot Design Award — 2019.05
- **FIRST LEGO League Internationals**, Best Science Research Award — 2018.05

SKILLS

Languages: English, Telugu

Programming: Python, C, C++, Java, R, Quantum Qiskit, LaTeX

AI: OpenAI GPT API, Meta LLaMA, IBM Granite Code Models, BERT, scikit-learn, TensorFlow

Applications: IntelliJ IDEA, PyCharm, CLion, VS Code, Adobe Photoshop, Adobe Premiere Pro

Hobbies: Video Editing, Graphic Design, Gaming, Touch Typing (Top 1% Worldwide), Coding, Exercising