Ronit Sohal

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"When you're backed against the wall, break the goddamn thing down" – Harvey Specter (Suits)

EDUCATION

Johns Hopkins University GPA: 4.0 | Expected May 2028

Bachelor of Science in Computer Science and Neuroscience

TECHNICAL SKILLS

Languages: Python, Java, C, C++, R, JavaScript, TypeScript, CSS, HTML

Frameworks: React.js, Tailwind, Node.js, Django, Flask, Firebase

Libraries: NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, Keras

EXPERIENCE

Johns Hopkins School of Medicine – CARDIAL LAB | *Jupyter, TensorFlow, Keras* *September 2024 – Present*

Research Assistant *Baltimore, MD*

- Utilizing **Keras** and **TensorFlow** to build advanced deep learning models for cardiovascular image analysis, specializing in semantic segmentation and point cloud processing.
- Developing predictive models for Wall Shear Stress to streamline aortic diagnosis, eliminating the need for MRI scans and fluid simulations, thereby significantly reducing diagnostic time and costs.

HopHacks | *React.js, Flask, MongoDB, AWS* *November 2024 – Present*

Organizer and Website Developer *Baltimore, MD*

- Collaborated on the development of the HopHacks website, JHU's annual hackathon with 500+ participants, facilitating seamless interactions with sponsors like Bloomberg, Marshall Wace, APL, and MLH.
- Contributed to the frontend (**React**), backend (**Flask**), and **MongoDB** database design, deploying the application on **AWS** for scalable performance.

Hussman Institute for Human Genomics | *NumPy, Pandas, Scikit-learn* *May 2023 – August 2023*

JJ Vance Computational Biology Intern *Miami, FL*

- Created **Python** scripts to retrieve and analyze data from the institute's extensive genome database and associated studies, optimizing data processing efficiency and accuracy.
- Leveraged advanced computational tools including **PLINK** and **AnnoPred** to conduct intricate Genome Wide Association Studies (GWAS), catalyzing groundbreaking genetic insights.
- Developed a prediction model for Alzheimer's disease, integrating DNA Methylation data, Annotation data, APOE 4 presence data, and Polygenic Risk Scores (PRS) data to forecast disease susceptibility.

PROJECTS

Connect | Java, XML, Firebase, Google Maps API *October 2023 - Present*

- Developed and published an Android application using **Java** and **XML**, integrated with **Google Firebase** and Google Maps API, facilitating elderly individuals to connect based on geographic proximity.

Corporate Stability Predictor | *NumPy, Pandas, Scikit-learn* *February 2024*

- Utilized web scraping techniques to extract financial data from an online vendor, calculated key metrics including Current Ratio, LTD-to-Earnings, ROE, Debt-to-EBIT, and Interest Coverage ratio, and trained predictive models to assess investment viability of companies achieving a prediction accuracy of **97.43%**.

AMC-AIME Bot | *Selenium, Discord API* *October 2023*

- Engineered a Discord bot capable of web scraping problems from the Art of Problem-Solving Website, presenting them to users, verifying answers, and providing real-time feedback on problem-solving progress.

OTHER HONORS AND AWARDS

- Charles R. Westgate Scholar at JHU
- Congressional App Challenge Winner and National STEM Challenge Finalist
- AIME Qualifier 2023 and 2024
- 1st Place Lockheed Martin Code Quest 2024, 1st Place UF HSPC 2023, 3rd Place UCF HSPT 2023