Arnav Sehgal

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EDUCATION

Purdue University — West Lafayette, IN
Bachelor of Science in Computer Science — *Aug. 2023 – May 2027*

- GPA: 4.0 - Dean's List & Semester Honors
- Relevant Coursework: Object Oriented Programming, Programming in C, CS Tools, Discrete Math, Calculus, Entrepreneurship

TECHNICAL SKILLS

Languages: Java, Python, R, C/C++, Javascript, HTML/CSS, SQL (Postgres)
Frameworks: React, Node.js, Express.js, JUnit, FastAPI, Django, Flask, Bootstrap, Angular.js
Developer Tools: Git, Google Cloud Platform, Vim, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: pandas, NumPy, Matplotlib, GeoPandas, scikit-learn, JavaFX, Java Swing

EXPERIENCE

Undergraduate Data Science Researcher — August 2023 – Current
Purdue University — *West Lafayette, IN*

- Collaborated with Bayer on employing Python's pandas and GeoPandas for data preprocessing and spatial-temporal merging of weather and yield datasets
- Implemented Lasso Regression and K-Nearest Neighbors within a ML framework to predict agricultural outcomes
- Performed PCA to reduce data complexity and identified 129 features with significant impact on yield variability
- Participated in Agile development cycles, including bi-monthly sprints, to continuously improve project processes

Robotic Process Automation Intern — June 2022 – August 2022
Accelirate Inc. — *Remote*

- Engineered an RPA bot in UiPath for automating accounts receivable follow-ups, streamlining overdue invoice management and accelerating payment processes
- Managed automation dashboards using UiPath Insights for efficient tracking and optimization of workflows
- Conducted maintenance and troubleshooting of RPA systems, leveraging UiPath Orchestrator for streamlined configuration and operational management

Artificial Intelligence + Healthcare Researcher — July 2022 – August 2022
Inspirit AI — *Remote*

- Developed a convolutional neural network for X-ray pneumonia detection with 92% accuracy, employing data augmentation to prevent overfitting and generalization
- Optimized medical imaging through transfer learning from a ImageNet model, minimizing computational costs
- Performed statistical model evaluation using Python's NumPy and Seaborn, benchmarking against K-Nearest Neighbors and Logistic Regression for baseline accuracy

PROJECTS

Purdue Marketplace | *Java, Multithreading, java.net, Java Swing, JavaFX, Git*

- Developed a concurrent online marketplace for Purdue University using Java, incorporating multithreading and synchronization for simultaneous user access
- Established network IO through Java sockets for seamless communication and interaction across various locations
- Created a GUI with Java Swing and JavaFX, improving account and store management, and product browsing

EcoTrail Explorer | *JavaScript, Node.js, Express.js, MongoDB, OpenWeatherMap API, Mapbox API*

- Developed a scalable web app using Node.js and Express.js, with MongoDB as the database for efficient storage and retrieval of user profiles, trail data, and community interactions
- Integrated OpenWeatherMap API for live weather insights, offering users accurate information for their adventures
- Improved user experience with interactive trail maps created using the Mapbox API, providing detailed navigation and terrain information for seamless outdoor exploration