Anish Sundaram

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Education

University of Michigan, College of Engineering, Ann Arbor MI Graduation May 2024

Bachelor of Science in Engineering in Computer Science with a Statistics Minor

GPA: 3.48/4.0

Relevant Coursework: Programming and Introductory Data Structures, Data Structures and Algorithms, Practical Data Science for Engineers, Linear Algebra, Computer Science Pragmatics, Technical Communication, Foundations of Computer Science, Web Systems

Honors: Dean's Honor List, University Honors, ASDRP Leadership Award

Experience

Aspiring Scholars Directed Research Program (ASDRP), Fremont CA May 2019 - August 2019

Lead Student Researcher/Lead Author

- Data mined the more than 1.5 million object NASA and CALTECH Exoplanet Archive using a MySQL database
- Designed an Exoplanet habitability classification algorithm using NumPy and SciKitLearn, and MatPlotLib for data visualization.
- Published manuscript in the 2019 issue of *ASDRP Communications*, later sharing findings with a team at Cornell University similarly interested in Exoplanet habitability

Cisco Systems, Milpitas CA July 2019

Service Provider Network Systems (SPNS) Intern

- Contributed my technical skills towards completing deliverables such as software patches and worked with engineering teams to design customer-specific products
- Learned how to understand customer needs and communicate technical information to non-technical people
- Co-developed with my mentor a Python-based application that increases the compatibility of Cisco routers with firewalls

Activities

Mathematics and Computer Science Tutor December 2016 - Present

- Enhanced the understanding of 17 tutees ranging from highschool to university from topics such as Algebra II, Pre-Calculus, Calculus 1, Java, and Python programming
- Worked in a one-on-one, personalized manner with students and resulted in significant raise in test scores and grades

Engineering Lead and Chairman's Award Speaker, FIRST Robotics Team #604 December 2019 - June 2020

- Used Java to design computer vision software and worked on code optimization
- Designed chassis using Autodesk and instructed new members on it.
- Won Regional Chairman's Award for the 2020 Season, qualifying team for the 2021 FIRST World Championship

Projects

Drone Pathfinding Algorithm April 2021

- Generates Minimum-Spanning Tree of user-provided destination points and restricted zones using Prim's Algorithm
- Applies choice of various heuristic approaches for nearly-optimal path or the most optimal path, both using Branch and Bound

Solar Radiation Predictive Model February-April 2021

- Conducted analysis on solar radiation dataset containing 32,684 samples and 11 features to determine most important feature
- Used sklearn, pandas, and numpy to implement three regression models: random forest, KNN, and multi-layer perceptron
- Compared accuracy using mean cross validation score, MAE, and MSE to determine best model
- Used Seaborn and Matplotlib to generate visualizations and plots

Machine Learning Piazza Post Classifier November-December 2020

- Supervised learning algorithm (Naive Bayes Classifier) which takes training information from a .CSV file
- Determines similarity between specific posts using log-probability score
- Implemented using custom Map, Binary Search Tree, and Iterator data structures

Skills

Programming Languages/Tools: C/C++, Java, Python, MATLAB, R, Rust, MySQL, PostgreSQL, Git, Bash Shell, Linux

Data Technologies: NumPy, Pandas, Matplotlib, SciPy, Scikit-learn, BeautifulSoup, Selenium, Seaborn

Foreign Languages: Tamil, Spanish, German