Spandan Das

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Education

Carnegie Mellon University **2024 (Expected)**
B.S. Computer Science
Relevant Coursework: Principles of Imperative Computation (C), Math Foundations of Computer Science, Matrix and Linear Transformations, Great Practical Ideas of Computer Science

Thomas Jefferson High School for Science and Technology
GPA: 4.6/4.0, SAT: 1590/1600
Relevant Coursework: Artificial Intelligence (Python), Computer Vision (C++), Machine Learning (Python), Parallel Computing (C), Probability Theory, Concrete Math, Multivariable Calculus, Linear Algebra

Experience

NASA Goddard Space Flight Center **June - August 2021; June – August 2020**
Machine Learning Intern
- Trained machine learning models on data from NASA's Global Precipitation Measurement mission's Core Observatory Satellite to classify precipitation type
- Developed ML models in **Python** (on **Linux**) using **NumPy**, **Pandas**, **TensorFlow**, **Scikit-learn**, **SciPy**, and **XGBoost**
- Utilized NASA Center for Climate Simulation (NCCS) supercomputing cluster to work with large data (2016 and 2017 annual satellite data) and optimize training of bagging models using multithreading
- Presented research to GSFC Climate and Radiation Lab and at international conference (AGU Fall Meeting 2020)
- `https://github.com/SD325/NASA_Internship_2020`

University of Virginia **June – August 2019**
Student Researcher
- Used web-scraping (**Beautiful Soup 4**) and machine learning (**Scikit-learn**) in **Python** to predict likelihood of premium subscription purchase for TV streaming platform
- Worked with UVA Professor Natasha Foutz and grad student

Projects

Tetris AI **March 2021**
- Modeled game of tetris from scratch in **Python**
- Used a genetic algorithm to place pieces in optimal location at each step
- Designed custom fitness function to compare boards of each generation

Skin Cancer Detector **April 2020**
- Classification of various skin lesions using **Keras** to train convolutional neural networks
- Achieved >92% accuracy using transfer learning
- `https://github.com/SD325/ISIC_Skin_Lesion_Detection`

Achievements

- 2021 USA Math Olympiad – Top 2% (Top 550 out of 30,000+ contestants; 232.5 USAMO Index)
- USA Computing Olympiad (USACO) – Gold Division
- 2021 CMU Math and Informatics Competition – 8th place team (out of 220+ teams)
- 2021 PurpleComet Math Meet – Honorable Mention Team (3000+ teams), 1st in Virginia
- 2019 VCU High School Programming Competition – 1st place team (out of 50+ teams)
- 2017-2019: American Computer Science League All-Stars (international) – 1st place individual (perfect score), 4th place team

Skills/Extracurriculars

Technical Skills: Java, Python, C, C++, LaTeX, HTML, Linux
Extracurriculars: Tennis, Hindustani Classical Music, CMU Sahara (Bollywood Fusion Dance), Basketball, Piano, Card/Board Games