Ankush Hommerich-Dutt

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Objective

Find an internship to satisfy my interest in deep learning and gain more practical software engineering skills.

Education

California Institute of Technology – Junior Sep. 2017 – June 2021
B.S. Double Major – Computer Science

Governor's School for Science and Technology / Hampton High School Sep. 2013 – June 2017
Valedictorian, GPA – 4.62, ACT – 35, SAT – 1530

Technical Skills

Languages – Expert: Python, C++, C, MATLAB, Scala Intermediate: SQL, OCaml, x86 Assembly, Mathematica
Software – Expert: Tensorflow / Scikit-learn / Keras, CUDA, Numpy / Matplotlib, Linux / Unix
Intermediate: Apache Spark, MySQL, LaTex, Vim, Git

Research / Work Experience

Cadence Design Systems June 2019 -
Machine Learning Research Intern

College of William and Mary – Computer Science Department June 2018 – Sep. 2018
Caltech Summer Undergraduate Research Program (SURF)

- Implemented a randomized SVD algorithm in the machine learning library (MLlib) of the cluster computing framework Apache Spark which offers distributed functionalities for numerical linear algebra
- Learned cluster computing, high-performance computing, and numerical analysis techniques
- Used the Scala language, with extensive work done on the Java Virtual Machine and Linux environment
- Presented research at SURF Seminar Day at Caltech

NASA Langley Research Center – Aeroacoustics Branch Sep. 2016 – June 2017
Senior Mentorship

- Studied computational error off several finite difference approximation schemes for the 1D heat equation
- Created many finite difference functions for the Aircraft Noise Prediction Program (ANOPP2) software

Coursework

Machine Learning, Operating Systems, Databases, GPU Programming, Algorithms, Data Structures, Functional Programming, Applied Linear Algebra, Statistics/Probability, Discrete Math, Theory of Computation

Hobbies / Projects

- GPU Accelerated AI: Developed an AI for the game Gomoku and sped up the tree searching on the GPU
- Machine Learning Research: Used a variational autoencoder to study map searching optimization
- Kaggle: Used survey data to predict voter turnout using random forests and gradient boosting
- Memory Allocator: Created malloc style memory allocator with efficient methods for block coalescing and a garbage collector using reference tables and the mark-and-sweep algorithm
- Othello bot: Used minimax algorithm with alpha-beta pruning to develop an Othello AI
- Was #1 in Virginia for speed-solving the Rubik's cube with an average of 9.24 seconds