Abhay Singh

contact

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education

Cornell University, Ithaca, NY
B.S. in Computer Science, GPA: 4.19/4.00 — Aug 2018 – May 2022 (expected)

coursework († = teaching assistant)

CS 4820: Analysis of Algorithms†, CS 3410: Systems Programming, CS 2800: Discrete Structures, CS 2110: Data Structures, MATH 2940: Linear Algebra, BTRY 3080: Probability & Inference, MATH 1920: Multivariable Calculus

languages & technologies

Python, Java, C/C++, JavaScript, HTML/CSS, SQL, Bash, LaTeX
Keras, TensorFlow, OpenCV, NumPy, Pandas, Scikit-Learn, PyTorch, Jupyter, Git, Docker, Flask

experience

Morgan Stanley, New York, NY
Technology Summer Analyst — June 2019 – Aug 2019

- Architected and implemented data pipeline to process, perform calculations on, and analyze over 800,000,000 entries of financial data daily with highly optimized parallelized Python scripts using NumPy and pandas
- Reduced mainframe consumption by 90% (from 5000 to 500 MIPS) relative to previous solution, saving an estimated tens of millions of dollars yearly in costs

Cornell Unmanned Air Systems, Ithaca, NY
Software Engineer, Computer Vision — Oct 2018 – present

- Developed software for real-time automatic detection, localization, and classification of multi-class target images captured from high-altitude autonomous aircraft
- Utilized transfer learning and designed convolutional neural network architectures from scratch with tuned hyperparameters to achieve high precision and recall in Keras/TensorFlow

Damco Solutions Inc., New Delhi, India
Software Engineer Intern — June 2017 – June 2017

- Deployed Android application PhotoShelf (photoshelf.in) in development team of four
- Sped up workflow by 1 week by designing wireframes that allowed concurrent implementation of back-end logic and front-end design
- Consulted higher management and collaborated with the CEO & Managing Director to streamline the app's UX design and flow by studying user preferences

Data Science for India
Instructor & Curriculum Developer — July 2017 – Oct 2017

- Developed introductory data science course for over 400 students of 11 Jupyter notebooks to manipulate useful data from large data sets using NumPy, pandas, and matplotlib

projects

Virtual Stock Market

- Deployed RESTful web app in Python using Flask that simulates stock market trading with live prices and paper money, storing transactions with SQL database

Spellchecker

- Implemented spellchecker in C that determines misspellings against a changeable dictionary using a self-implemented hash table

Fashion-MNIST Classifier

- Designed end-to-end classifier from scratch with a simple convolutional neural network architecture to classify images from the Fashion-MNIST data set

Tweet Sentiment Analyzer

- Scores user's tweets as positive, neutral, or negative using Twitter API and visualizes data

Space Invaders

- Implemented retro arcade game in Python with MVC and State design patterns

JPEG Recovery

- Recovers JPEG files from formatted memory cards (.raw files) in C