

Abhay Singh

contact

✉ as2626@cornell.edu
☎ (404) 353-0477

in [linkedin.com/in/as2626](https://www.linkedin.com/in/as2626)
🐙 github.com/as2626

education

Cornell University, Ithaca, NY

B.S. in Computer Science, GPA: 4.19/4.00

Aug 2018 – May 2022 (expected)

coursework

(* = in progress)

(† = teaching assistant)

CS 6670: Computer Vision (Graduate)*, CS 4780: Machine Learning*, CS 4820: Analysis of Algorithms†, CS 3110: Functional Programming*, CS 3410: Systems Programming, CS 2800: Discrete Structures, CS 2110: Data Structures, MATH 2940: Linear Algebra, BTRY 3080: Probability & Inference

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 end-to-end 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 tens of millions of dollars yearly in costs
- Deployed company-wide web service DevOps tool to analyze large text-based datasets

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 with a small dataset
- Utilized transfer learning and designed convolutional neural network architectures from scratch with tuned hyperparameters to achieve high precision and recall

Damco Solutions Inc., New Delhi, India

Software Engineer Intern

June 2017 – June 2017

- Deployed Android application PhotoShelf (photoshell.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