











Abhay Singh

contact	 as2626@cornell.edu  (404) 353-0477	 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 († = 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 <i>Technology Summer Analyst</i> <ul style="list-style-type: none">• 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% relative to previous solution, from 5000 to 500 MIPS, saving tens of millions of dollars yearly in costs Cornell Unmanned Air Systems , Ithaca, NY <i>Software Engineer, Computer Vision</i> <ul style="list-style-type: none">• 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 <i>Software Engineer Intern</i> <ul style="list-style-type: none">• 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 <i>Instructor & Curriculum Developer</i> <ul style="list-style-type: none">• 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	June 2019 – Aug 2019 Oct 2018 – present June 2017 – June 2017 July 2017 – Oct 2017
projects	Virtual Stock Market  <ul style="list-style-type: none">• 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  <ul style="list-style-type: none">• Implemented spellchecker in C that determines misspellings against a changeable dictionary using a self-implemented hash table Fashion-MNIST Classifier  <ul style="list-style-type: none">• 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  <ul style="list-style-type: none">• Scores user's tweets as positive, neutral, or negative using Twitter API and visualizes data Space Invaders  <ul style="list-style-type: none">• Implemented retro arcade game in Python with MVC and State design patterns JPEG Recovery  <ul style="list-style-type: none">• Recovers JPEG files from formatted memory cards (.raw files) in C	