NILESH GUPTA

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WORK EXPERIENCES

Data Scientist | Summer Analyst
Goldman Sachs

📅 Jan–Sept 2020|May–Aug 2019   📍 New York City, NY

- Analyzed hundreds of millions of user interactions with internal portal stored in Elastic cluster using **python** and **ElasticSearch**, resulting in design changes and implementation of new features
- Discovered hundreds of code vulnerabilities in Goldman Sachs' code repository by creating scanning software in **Java** that is multi-threaded for quick scans

Teaching Assistant for Numerical Methods
University of Illinois, Urbana-Champaign

📅 Aug. 2018 – Dec. 2018   📍 Champaign, IL

- Led discussion section for 30 honors students and held weekly office hours for a deeper dive into theoretical concepts discussed in lecture

Autonomous Vehicle Intern
Aptiv

📅 June 2018 – Aug. 2018   📍 Mountain View, CA

- Used terabytes of fused track data from Radar and LIDAR of autonomous vehicle to visualize the surrounding environment through **C#** and **Unity**
- Implemented collision detection to alert host vehicle for potential threats in simulation environment

Software Engineer Intern
Capital One

📅 Sept. 2017 – May 2018   📍 Champaign, IL

- Detected fraudulent credit card applications using logistic regression for anomaly detection using **python**
- Migrated data from IBM DB2 databases to AWS S3 bucket using **Java**

TECHNICAL SKILLS

Python, C++, Java, R   ●●●●○
PyTorch, Julia, C#, C, SQL   ●●○○○

RELEVANT COURSEWORK

- CS: Artificial Intelligence, Numerical Methods, Computer Architecture, Databases, Data Structures, Systems Programming, Algorithms, Compilers, Machine Learning, Game Theory, Introduction to Computer Vision
- Stats: Applied Stats, Statistical Programming, R Programming for Data Science, Statistical Computing
- Math: Multivariable Calculus, Linear Algebra, Real Analysis
- Informatics: Data Science Foundations, Advanced Data Science

EDUCATION

M.S. Computer Science
Northwestern University

📅 March 2022   📍 Evanston, IL

B.S. Computer Science & Statistics
University of Illinois, Urbana-Champaign

📅 December 2019   📍 Champaign, IL

- GPA: 3.77

RESEARCH PROJECTS

Behavior Prediction
- Worked with Human Centered Autonomy Lab to solve scenario in which occluded pedestrian starts to cross street
- Built partially observable Markov decision process model to infer presence of occluded pedestrian using neighboring agents

Energy Disaggregation
- Worked with UC Berkeley Robotics Lab to respond to the earth's rising temperature with a goal of reducing energy consumption
- Produced prior models on the behavior of appliances to select most probable appliance consumption behavior based on previously observed behavior from dataset

Inverse Reinforcement learning
- Worked with Human Centered Autonomy Lab to implement DAgger algorithm using convolutional neural network, resulting in simulated kart completing circuit race tracks

ACTIVITIES

Goldman Sachs Datathon
- Analyzed World Health Organization (WHO) covid-19 and SP 500 NASDAQ data, resulting in discovering as number of total confirmed cases rose, trade volumes decreased linearly.

HackIllinois
- Built web application where users invest currency in NCAA basketball players based on NBA growth potential

PATENTS & PUBLICATIONS

- Energy Disaggregation via Adaptive Filtering pending publication to ACM Transactions on Intelligent Systems and Technology
- Vehicle System and Method for Steep Slope Pick-Up and Drop-Off Site Avoidance published to European Patent Office