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Dhruv Maniktala

University of Maryland
B.S., Computer Science & Mathematics — *Expected Graduation: May 2023*
GPA: 3.82 — *Advanced Cybersecurity Experience Honors College*

Coursework: Algorithms in Machine Learning, Deep Learning, Compilers, Parallel Programming

Skills: C, C++, Go, Java, Node JS, Python, TensorFlow, PyTorch, AWS, Kubernetes, SQL

Work Experience

3D Point Cloud Visualization | *SDE Intern at Amazon Web Services* — *May - August 2021*
- Developed full-stack application with React Redux to visualize and label 3D Point Cloud Data
- Parsed lidar data from self-driving cars using AWS SageMaker API to render onto 3D model annotated with labels for training machine learning models to recognize cars, pedestrians, and other objects
- Improved time spent labeling Amazon SageMaker jobs by 500% on average and 1100% in worst case

AI Policy Optimization | *Extreme Blue Intern at IBM* — *May - August 2020*
- Wrote React application to analyze and reduce sets of security policies to their minimum number of policies
- Implemented algorithm to operate on IBM Cloud accounts using Go and deployed onto Kubernetes
- Managed Scrum team to make product deliverables each week and present to IBM executives
- Reduced average size of policy sets by 40%, allowing IAM administrators to prevent data breaches and improve cloud performance

Identity Access Management | *Software Engineer at UMD Division of IT* — *January - May 2020*
- Reworked password reset process workflow for all of University's infrastructure
- Used Java and SQL to manage group permissions for students and staff affiliated with university

Projects

Monte Carlo Geometric Brownian Motion — *2021*
- Created simulation to model stock index prices using Geometric Brownian Motion
- Used Python to gather stock data, solve probability density function, and generate Monte Carlo paths
- Achieved error (MAPE) of 5% across monthly period and 10% across full year on S&P500

GAN Frame Interpolation — *2019-20*
- Used Generative Adversarial Networks (GANs) to draw frames in between 2D animation sequences
- Designed GAN implementation in TensorFlow based on models from current ML research
- Achieved 70% accuracy for 180p resolutions, still improving with tests on different algorithms

Achievements

Full Banneker/Key Scholar – *University of Maryland, College Park* — *2019-21*
Received full scholarship for academic distinction and achievements.

State Education Grant – *Maryland State Board of Education* — *2019*
Awarded grant of $7,000 to start and expand programs for educating youth in STEM.

Second Place International Distinction for Physics – *Online Physics Brawl* — *2019*
Ranked second in international physics competition.

Extracurricular Activities

Teaching Assistant for CMSC422: Introduction to Machine Learning — *2021*
Teaching algorithms and mathematics concepts in machine learning to 300 undergraduate juniors and seniors at UMD.

Technica — *2020*
Marketing team video specialist for the world's largest women and non-binary hackathon.