Pranav Maniktala
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Education:

University of Maryland, Baltimore County (UMBC)   **Baltimore, MD**
Major: B.S. Computer Science | **Track**: Data Science/AI, **Minor**: Economics   Dec 2020

Work Experience:

Johns Hopkins APL   **Laurel, M.D.**
Lead Aerospace Software Engineer
May 2024 – ongoing

- Lead, architect, and develop vehicle agnostic optimal control trajectory simulation efforts via **C++**
- Lead, prototype, and implement HPC (High Performance Computation) algorithms from monolith services to parallelly processed services with **C++** via **gRPC** | improving accuracy, performance, speed, and resource throttling
- Reconstruct and develop Framework for Linear Algebraic related computations throughout APL in **C++**
- Explore and develop data structures and algorithms for improving and refining speed/performance of optimal control trajectory toolchain through numerical methodologies such as caching, linearization, multi-dimension interpolations & vectorization with **Python and C++**
- Parallely Process and evaluate mission flight variations through 6DoF Monte-Carle simulations with **Nvdia CUDA**

Capital One   **McLean V.A.**
Senior Associate Software Engineer
March 2022 – May 2024

- Develop and Manage Pipelines and construct DAGs (Directed Acyclic Graphs) in Apache **Airflow** for pertaining applications on AWS using **Python, Snowflake, Databricks** and other data analytic AI/ML solutions to acquire new credit card customers
- Automate workflows and deployments via CI/CD pipelines from **Jenkins** to **AWS** such as **Lambda, EC2, S3, and EMRs** in **Dockerized** environments
- Develop B2B Enterprise solutions leveraging **Java Springboot** to facilitate movement of credit card data to AI analytic services and external clients.
- Orchestrate, discuss and coordinate requirements with external/internal vendors to architect product to accommodate all parties needs

U.S. House of Representatives   **Washington D.C.**
Software Engineer (Originally Intern)
January 2019 – February 2022

- Developed Backend microservices and web applications in **.NET Core**, and frontend in **Angular** and **JS** utilizing **SQL** dbs and created REST and **GraphQL** API's with authorization keys improving performance, speed, security, and scalability; currently handling around a million[+] records
- Created Statistics Panel for Administrators to receive extensive understanding on user submissions data to constituents
- Deploy web applications on IIS Servers while coordinating with testers on status of the application in between each deployment (Dev, Staging, and Production)
- Set up and managed Gitlab CI/CD pipelines for deployments, security detections, and unit testing
- Developed applications by following Scrum Development methodology. Participated in Sprint Planning, Daily Standups, Sprint Review and Sprint Retrospectives (3 week cycle)

UMBC & NASA Goddard Space Flight Center
Research Assistant   **Baltimore, MD**
August 2020 - January 2022

- Responsible for architecturally designing and developing web application, compression scheme formats & LIDAR graph visualizations with incoming realtime multidimensional data from different test sites in the EPA's atmospheric LIDAR and NASA networks using **Django** and **Postgres** under UMBC Atmospheric LIDAR Group
- microservices improved performance and time of reading, writing, merging data chunks by over 50%
- Standardized cloud data around country utilizing NetCDF (currently maintaining 30+ ceilometers)
- Deployed Applications on **AWS** and local servers and integrated with each other

UMBC Department of Information Technology (Internship)   **Baltimore, MD**
Student Security Technician
May 2018-December 2018

- Analyzed and monitored Web Traffic of school's network with data tools such as Splunk and ElasticSearch in order to protect the network. (**Splunk User Certified**)
- Programmed Splunk Dashboards in **python**, including one finding logins from other countries are valid
- Used tools such as Nmap to find vulnerable hosts attempting to breach school network and reported once found to ip/url host owners (Advanced Linux user, completed Cisco Linux Fundamentals)

Projects:
- ***Simply Scribe*** – AI Medical Scribe with transcription service to automate **SOAP** and custom note formats
  https://www.simply-scribe.com/
- ***SeedBase*** – Search Engine and Database built to find and categorize seeds with React, Node, ElasticSearch Firebase, and Python (won best "Data at the source" at HackAE, Hack American East Conference)
- ***Glassdoor Apply Script*** – Script that find job applications based on your search specifications and applies for them, written in python
- ***RedditSaleFinder*** – Bot that finds sales on products/brands based your specifications, saved total of $400 on PC

Skills:
JavaScript, Python, C, C++, C#, .NET Core, Docker, AWS, Azure, Java, Git, Node.js, React Native, React, MongoDB, SQL, Postgres, Splunk, Elasticsearch, Linux, Redis, Shell Scripting, SCRUM, HTML, CSS

Relevant Experience and Clubs:

HackUMBC   **Baltimore, MD**
Lead of Web Development
Fall 2016 – January 2020
- Organized and set up Hackathons and ran workshops to teach new coming programmers. developed login registration system with database and website using HTML, CSS, Javascript, JQuery, Node.js, and MongoDB, and Angular managing around 2000 attendees.
- Oversee and manage HackUMBC's organizers during the event
- Run Workshops presentations to teach new coming programmers tools and concepts, such as blockchain technology

Investors Club at UMBC   **Baltimore, MD**
Treasurer
2018
- Manage finances of club
- Educate others on how to save and invest their money through Financial Literacy
- Have been investing in a range of assets from Stocks, Futures, and ETFs