MAYANK GOVILLA

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Education

Worcester Polytechnic Institute (WPI) | Worcester, MA   **May 2023**
Bachelor of Science in Computer Science and Robotics Engineering **(GPA: 3.92/4.0)**

Related Courses: Software Engineering, Algorithms/Data Structures, Web Development, AI
Certifications: AWS Solutions Architect Associate   Sep 2021

Skills: Java, Python, Golang, TypeScript, Git, Bash, ReactJS, SQL, GraphQL, Docker, Kubernetes, AWS

Professional Experience

SDE Intern | Amazon Robotics | Boston, MA   May 2022 – Aug 2022
- Extended workcell design with the *Strategy Design Pattern* in *Java* to implement experimental algorithms for estimating fullness of warehouse trailers in *AWS Lambda*
- Analyzed trailer data using *K-Means clustering* with *Scikit-learn* to identify significant features
- Designed new estimation algorithm using *Linear Regression* that exhibited 50% less variance
- Piloted 2 algorithms at 10 trailer doors in a warehouse and collected customer feedback in person
- Measured performance improvements of estimators with *AWS CloudWatch* metrics over 3 weeks

Software Engineer | Jahnel Group | Schenectady, NY   Jun 2021 – May 2022
- Created party planning web application utilizing *React*, *GraphQL*, and *Express*
- Developed *RESTful* microservice in *Go* to model a file system in *CockroachDB* with a closure table. It exposed methods for CRUD operations where update and delete affect the whole file subtree.
- Decoupled system of 4 *microservices* to comply with best practices for availability
- Automated documentation and test generation with *Swagger* tools to save 20+ hours of work
- Spearheaded implementing load-testing in the *Kubernetes* environment to find bottlenecks
- Discovered and solved 2 bugs in open-source CockroachDB libraries (gorm and cockroach-go)

Lead Software Engineer | BW Hospital Navigation App | Remote   Jan 2021 – Mar 2021
- Developed indoor navigation desktop application with *JavaFX* and the *Google Maps API*
- Reviewed 100+ pull requests with feedback and kept team on track with daily *scrum* meetings
- Implemented *A** in *Java* with streams for efficient pathfinding in a graph with 350+ nodes
- Incorporated *Singleton* and *Observer* design patterns and *Guice* for dependency injection

Intern | Harmoni BioSolutions | Remote   Jun 2020 – Aug 2020
- Adapted *Python* script to analyze Next Generation Sequencing data 5x faster than the existing solution using *multiprocessing*, saving over 80 hours per analysis
- Migrated the existing *data pipeline* to the cloud with *Google Cloud Platforms*

Additional Experience

Q-Learning in Java | Artificial Intelligence | WPI   Feb 2022
- Implemented *Q-Learning* in Java to teach an agent to navigate a stochastic environment

Teaching Assistant | Systems Programming & Operating Systems | WPI   Aug 2021 – Present
- Led class of 20+ students through exercises to learn about concurrency in *C/C++* hands-on

Goatbook Mobile App | Hack@WPI   Jan 2021
- Created subscriber based social media app in *Flutter* over the course of 36 hours
- Designed real-time messaging system using a *NoSQL* database (*Firestore)* with group chats
- Integrated Google Sign In through *Firebase* to access user photo and email

Activities

Web-Tech Chair | Sigma Pi Gamma Iota | WPI   Sep 2022 – Present