Rishav Kumar Dokania

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Education

Texas A&M University College Station, TX
MS in Computer Science - ***GPA: 4/4*** *Aug. 2022 – Dec 2023*
- **Courses:** Operating System, Software Engineering, Cloud Computing, AI Robotics

Delhi Technological University New Delhi, India
B.Tech in Electrical & Electronics Engineering - GPA: 3.6 *Aug. 2015 – May 2019*
- **Technical VP - Society of Robotics — Courses:** Data Structure & Algo, Programming C++

Technical Skills

Java: OOP, JUnit, Design Patterns, MVC, Gradle, Functional Prog., OpenCV — **Python**: PyTest, Poetry, Black, Pandas, PEP8 — **C, C++** — Linux, Data Structure — **JavaScript**: Node/ReactJS, REST APIs, HTML, CSS — **Git**: Bitbucket, Github Actions, Jenkins — **MySQL**, PostgresQL, MongoDB — **AWS**, Docker, Heroku — Ruby On Rails

Experience

Cirrus Logic May 2023 – Aug 2023
Software Developer Intern | Java, Gradle, Junit Test *Austin, TX*
- Designed complex Java App reusable components using functional, asynch programming saved 28+ hrs/month.
- Architectured 4 generators into 1 object oriented modular, extensible package for automated XML, YAML, JSON content generation over 30+ commits to reduce turn around time by 25%.
- Orchestrated scalable python infrastructure from scratch using Poetry, Pytest, CLI, Code Style, SVN and Jenkins CI/CD to streamline DevOps flow by 35%.
- Setup complex Gradle projects, review peer code, incorporate 100% PR feedback, use established code standards.
- Built clean parametric unit, robot test on Junit5 framework with mockito for 100% code coverage.

Texas Instruments July 2019 – July 2022
Software/Product Engineer | Python, Java, Design Patterns, CI CD, Git *Bangalore, India*
- Lead object oriented software development to detect pre-manufacturing quality defects in Integrated Circuits. Impact of 1 year, $100M+ business. 3rd highest contributor of Patent Disclosure among 8.
- Developed modular self-documented python architecture for test bench generation. Composed design patterns, automated 150+ test setups to reduce 30+ weeks churn time across 15+ Projects.
- Devised Java OpenCV algorithm and Junit tests framework for device orientation, pick and navigation for Robotic Device testing of 5000+ devices to pull in customer delivery by 3 weeks and co-authored paper.
- Promoted to Senior, collaborated with Fellows to upgrade quality of 25M+ chips/year using 5-Why, 8D methods.

Academic & Projects

Survivor Buddy Robot | *Python, ROS* Jan 2023 – May 2023
- Architectured AI Rescue Robot class diagram, project structure over 2K+ lines of code for 65% more readability.
- Modularized 5 ML Human Interaction behaviors with Observer Design Pattern for 35% better extensibility.
- Designed multi-threading algorithm for parallel image & audio processing to reduce latency by 95%, below 0.1s.

Linux Kernel Development | *C, C++, Multi-Threading, Linux, Elixir* August 2022 – Dec 2022
- Designed multi threaded Priority Scheduler. Used waiting queue and context switching to save current thread's x64 registers, stack pointers and switch to target thread for 4x parallel run.
- Developed new system calls, modified task struct - Process Control Block and added a new structure with doubly linked list to record, store system call trace.
- Modified Page Fault to isolate global process variables among threads mmap Local Thread Mapping. Asynchronous page table modification to allocate new page.

Aggie Rotaract Web App | *JavaScript Node/ReactJS, AWS, MySQL* August 2022 – Dec 2022
- Developed web application with 10+ reusable and dynamic components using ReactJS, Hooks with RestAPIs using Agile CI/CD in AWS to improve operation efficiency of Aggie Rotaract club's 1000+ members by 30%.
- Designed data diagram, schema, CRUD and filters for 6 tables in MySQL for 20% better Database organization.
- Instantiated AWS EC2 server with IAM Roles, Security Groups, RDS for secure & 100% scalable infrastructure.