Sanket Acharya

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EDUCATION

University of Maryland, College Park - Master's in Robotics — Aug 2018- May 2020

TECHNICAL SKILLS

- Languages: Java, Python, JavaScript, C++
- Web Technologies: ReactJS, Redux, NodeJS, ExpressJS, REST API
- Databases: MySQL, MongoDB
- Tools: Eclipse, OpenCV, Git, Docker, JIRA, SOLIDWORKS, After Effects

WORK EXPERIENCE

Programmer Analyst — Nov 2016- July 2018
Cognizant Technology Solutions — Pune, India

- Developed critical modules for automation and scaling of 3 transactional portals to handle data of UK-based financial institution.
- Revamped homepage for the online banking portal of the UK-based financial institution using React JS.
- Fixed various bugs in the customer onboarding module reported by testing and QA team.
- Optimized the file handling system resulting in overall performance improvement by 20%.

Research Intern — August 2015- June 2016
SKF India Ltd. — Pune, India

- Configured kinematic and dynamic model of a prototype of a Pick and Place Robotic Arm by using Denavit-Hartenberg (DH) notations and Lagrange-Euler (LE) formulation respectively.
- Implemented software using Java to validate kinematic and dynamic models of the robotic arm.
- Devised a system to track and report rejected roller bearings in 7 production lines using Python.
- Analyzed and boosted the performance of roller bearings manufacturing lines by 15%.

PROJECTS

YouTube Clone

- Built and deployed a YouTube web application using ReactJS and YouTube DATA API.
- Designed and implemented a new feature for YouTube called Timestamp. The timestamp feature allows YouTubers to split a video into multiple segments (e.g. Introduction, Derivation, etc.) so that users can find the desired information quickly.
- The app automatically extracts timestamps from the description of the video.
- Improved usability of the application by implementing the polling system.

Bridge the Gap

- Developed a web-based Student-Employer platform for training, discussions, mentorship, and guidance using ReactJS, NodeJS, and MongoDB in MVC architecture.
- Managed frontend development using ReactJS and led the team in the design phase of the project.
- Implemented and integrated course and announcement module with user management module.
- Created UI prototypes, architecture views, and detailed design documentation.

Path Planning for multiple Warehouse Autonomous Ground Vehicles

- Built Python application for visualizing pathfinding algorithm for multiple Warehouse AGVs.
- Implemented D* Lite on a simulated environment of an Amazon Warehouse to transfer items between the pickup and drop-off locations respectively avoiding collisions and bottlenecks**.**

A*, Dijkstra and BFS Algorithms for Point and Rigid Robots in a Custom Map

- Implemented Dijkstra and A* Algorithm using Python and OpenCV.
- Constructed the map using Halfplanes and semi-algebraic models.
- Used Minkowski Sum for obtaining configuration space for a rigid robot.

Handwriting Emulator

- Designed and developed software to emulate my handwriting style using Java.
- Analyzed multiple handwriting samples and mimicked handwriting characteristics like the shape of letters, the spacing between letters, size consistency, and slant.

Pen Plotter

- Developed a robot to execute Handwriting emulator's output on a paper by using a pen.
- Modified the traditional design by changing the position of the belt which resulted in uniform load distribution, higher accuracy, and better reliability.
- Reduced the manufacturing cost by 35%.

Extra-Curriculars

- Video Editing and Visual Effects: Ironman HUD (Head-up Display)
  https://drive.google.com/open?id=1-63TA0xqRKbzUxt8Zt6tgR0WWjYd3HrM