

UDITYA LAAD

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PROJECTS

Optimizing Vertex-Cover Problem & Comparison with Other Methods [↗](#)

Mar 2022 – April 2022

- Implemented and analysed 2 polynomial-time & 1 NP-complete algorithm for solving the minimum vertex-cover problem.
- Optimized the existing encoding of CNF-SAT solver (NP-complete) to provide most optimal result at > 60 % faster rate.

Tech Stack: C++, UNIX.

Repo: <https://github.com/udityalaad/OptimizingVertexCoverProblem>

Street Specifications Generator & Optimal Path Finder – using Multiprogramming [↗](#)

Jan 2022 – Mar 2022

- Designed street generator to create valid specifications in less than 10 unsuccessful attempts (further converted to graph).
- Dynamically generated trails for specifications & facilitated communication between processes using multiprogramming.

Tech Stack: Python, C++, UNIX.

Repo: https://github.com/udityalaad/StreetSpecificationsGenerator_and_OptimalPathFinder

Asynchronous Meal-Service Application with Model Optimization – (FoodBell) [↗](#)

Jan 2022 – April 2022

‘FoodBell’ is an asynchronous solution for facilitating subscription-based (recurring) meal services – using a dedicated application, secure micro-service architecture and CI/CD approach.

- Created an optimal ‘vendor-consumer’ model & leveraged it to design the user application with targeted functionalities.
- Architected a secure Micro-service model, with a Gateway facilitating 3 different services (consumer, vendor, auth).
- Allowed real time communication between vendor & consumer platforms; used Cron jobs to facilitate automated changes.

Tech Stack: Spring Boot, MySQL, Node.js, React, Java, Junit, Integration Test Framework (in react), Selenium.

Repo: <https://github.com/udityalaad/FoodBell>

GPS Based, Real-Time Accident Management System [↗](#)

Jul 2018 – Jul 2019

An IoT project providing a collaborated solution for accident prevention, accident detection and rescue/aid – using a blend of Cross-platform applications, Microservices & Embedded Technology.

- Created a real time, multi-platform application - with unique dynamic functionalities for 3 sets of users.
- Created Black Box Device to automatically detect accident of vehicles & integrated it with user application.
- Created Web Services to implement algorithms & performed Data Analytics to provide better responses.

Tech Stack: Node.js, Cordova, Raspberry Pi, Python, Web Development, Firebase, Cloud Messaging, Cloud Functions, Android Application Development, Data Analytics

Repo: https://github.com/udityalaad/GpsBased_RealTime_AccidentManagementSystem

Practical Implementer & Stepwise Analyzer for CCNS Techniques – (Cyber Solve) [↗](#)

Mar 2019

- Developed an application to generate simplified results for complex techniques and algorithms used in ‘Computer Cryptography and Network Security (CCNS)’.
- Also provided the option of detailed analysis, by allowing step-by-step tracing of each implementation.

Tech Stack: Java

Repo: https://github.com/udityalaad/Cyber_Solve

Intelligent Analyzer & Suggestions Builder, cum E-Commerce Platform – (The Shoe Rack) [↗](#)

Apr 2018

- Developed and implemented coherent algorithms to perform efficient cost and feature analysis, in order to generate dynamic comparison of products.
- Created a Web App. - to display best-to-worst results, and also act as an E-Commerce portal (for shoes).

Tech Stack: Java, Web Development (JSP, HTML, JavaScript, CSS), SQL (Oracle Database), Apache Tomcat.

Repo: https://github.com/udityalaad/The_Shoe_Rack

Applications for Simple Mini-Games

Feb 2018

- Created applications for simple games like Ball Bounce (with smart Obstacles Generator), Maze Game ('Self play' + 'Automated - with intelligent Path Decoder'), and Tic-Tac-Toe ('v/s Player' + 'v/s Computer').

Tech Stack: Android application development, C, C++

Repo: https://github.com/udityalaad/Applications_for_Simple_MiniGames

Simple Reservation System for Airlines – (Go Fly)

Oct 2017

- Created an easy-to-use application for flight reservation and payment, using Java & SQL (Oracle Database).

Tech Stack: Java, SQL

Repo: https://github.com/udityalaad/Go_Fly