DURGESH PATEL

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EDUCATION

Chandigarh University, *B.E in Computer Science(DevOps)* | Chandigarh, India   CGPA: 8.3 / 10   Aug 2021 - May 2025

Courses: Linear Algebra | ML | Probability and Statistics | Optimization | Calculus | Design and Analysis of Algorithm

Robotics Advanced Concepts and Analysis | Advance Linear Algebra | Reinforcement Learning | Unmanned Vehicles | Machine Learning | Path Planning | Computer Vision| NLP| Numerical Computation

EXPERIENCE

WorldQuant, *Research Consultant (Finance models)* | Remote (Old Greenwich, USA)   October 2022 - December 2023
- Implemented Finance models to make alpha for different type of Markets .
- Made a Finance model based on Deep Q learning and GRU to get the 12% return .
- Got featured in the top 15 research consultants in India.

FourKites, *ML Engineer Intern* | Remote (India)   May 2022 - Aug 2022
- Led an 8-person team to develop a fiducial-marker-based **localization** model for an unstable camera feed.
- Develop a real-time detection model for logistics department.

Chegg, *Subject Matter Expert in Advanced Mathematics* | India   Aug 2023 - December 2023
- Solved more than 1100 Questions in Advanced Mathematics.
- Got Quality Check Score 4.5 out of 5.

SKILLS

Languages	Python, C/C++, CUDA, CMake, Matlab, Git, Bash, LaTeX,
Python ML libraries	Numpy, Pandas, MatPloytlib,Scipy, JAX, TensorFlow, PyTorch, OpenCV
Software	Linux, Docker, Unity Games, Github, CI/CD, Chef, Kubernetes, Condas
Coursera Certifications	Cloud-Native Development with OpenShift and Kubernetes	Oracle Cloud Infrastructure Architect Associate| Excel Skills for Business: Essentials| Deep learning	Machine learning

PROJECTS

Autonomus Vehicle Navigation Using RL state Space Exploration   Aug 2023 - November 2023
- Developed a autonomous vehicle (**Unity games**) & integrated with **feedback control** for state dynamics.
- Implemented State-Space exploration to detect the shortest path (Using DQN algorithm) for navigation and successfully avoid the obstacle.
- Shown the heat-map using Voronoi Field and Diagram for Showing the heat-map of the vehicle's navigation.
- Extended the navigation for Semi, Semi-trailer Vehicle and got the same accuracy as of Small vehicle .

Stock market prediction app   October 2021 - Feb 2022
- Develop a model to predict the stock prices for consecutive seven days for GOOGL, MSFT, AAPL, FB, AMZN, BA, CAT, GE, HOG, PG, T, TSLA, WMT.
- Used different ML and DL algorithms to compare the accuracy like Used Linear regression,**DNN,RNN, GRU**.
- Used the evolution algorithm and get the accuracy of **62%** upgradation from the pevious algorithm used .

Meta's Research Enhancement – *Object Goal Navigation*   Jan 2023 - April 2023
- Integrated **YOLOv7** and performance enhancements led to a 7% success rate boost in object goal navigation.
- Engaged with a deep RL model, leveraged On Policy. Integrated **RRT** to path planning replaced Fast Marching.

CI/CD Pipeline for web application *- College Project*   Feb 2023 - June 2023
- Worked in a team of four and developed an automated web application building, testing, and deploying code changes to production.
- Got the 3rd rank out of 100 projects.
- Successfully integrated an advanced image processing module for various capabilities in a real-world Mambo drone.

Minesweeper Game   Nov 2021 - Dec 2021
- Developed an Simple Minesweeper Game using Python.

SmartGuard Financial Security Suite: AI-Powered fraud detection *- College Project*   Jan 2024 -
- Developing a robust credit card fraud detection system using Advanced anomaly detection techniques.
- This project aims to provide detailed fraud alerts while addressing false positives and ensuring compliance with data privacy regulations ..