ANKUR KOHLI

SOFTWARE ENGINEER

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ANKUR KOHLI - PORTFOLIO

Aspiring Software Engineer with a strong foundation in Python, C/C++, Dart, Flutter, Java, Bash, Powershell, API driven client server development, & advanced technologies.

ABOUT ME

Proactive and results driven Software Engineer with expertise in **Flutter UI/UX** and ROS based backend client server systems. Expertise in designing and deploying scalable solutions with robust **API integration** and **real robot deployment**. With a strong foundation in **robotics** and **AI**, I thrive on problem solving and delivering intelligent, cutting edge solutions. Passionate about collaborative development, continuous improvement, and driving project success through clean, maintainable code, and modern software practices.

PROFESSIONAL EXPERIENCE

- **Software Engineer** *April 2025 - October 2025*

  NTT DATA Italia Italy

  - Developed cross platform Flutter frontends with a UI/UX focus and realtime, multithreaded ROS2 backends, ensuring secure, low latency communication for intelligent systems.
  - Led the development and deployment of an autonomous NAV2 SLAM pipeline using Dockerized ROS2, CI/CD, and tested on a real robot for hardware agnostic scalability.
  - Enhanced system reliability through structured integration testing, validation, and debugging workflows using GitLab CI/CD, which reduced post deployment errors.
  - Drove agile cross-team collaboration through technical documentation, architectural design, and specifications, turning research concepts into deployable, high performance systems.

- **Thesis Project** *June 2023 - February 2024*

  NTT DATA Italia Italy

  - Researched and developed realtime, multithreaded architectures to improve robotic system efficiency by 30%, optimizing inter process communication and latency.
  - Built and deployed SLAM based mapping and navigation pipelines in Dockerized ROS2 with CI/CD workflows, enabling hardware independent scalability and reducing deployment time by 25%.
  - Tested, validated, and debugged software using GitLab CI/CD, increasing system reliability and uptime by 20%.
  - Authored comprehensive technical documentation, improving team productivity and maintainability across projects.

PROFESSIONAL SKILLS

Technical Skills

Programming Languages:

Python, C/C++, Java, Dart, HTML5, CSS3, Bash, Powershell, JavaScript

Libraries:

OpenCV, PyTorch, TensorFlow, OpenAI

APIs:

JSON, WebSocket Services

Software & Tools:

Ubuntu/Linux, WSL, Docker, Git/GitLab, Flutter, CI/CD Pipelines, VS Code

Soft Skills

Leadership & Planning:

Strategic Planner, Project Management, Mentoring

Innovation & Problem-Solving:

Creative Spirit, Concept Development

Teamwork & Collaboration:

Conflict Resolution, Reliable Organized

CERTIFICATIONS

- **Microsoft:** Azure Fundamentals *November 2025*
- **Google Cloud Skills Boost:** Responsible AI: Applying AI Principles with Google Cloud *January 2025*
- **Google Cloud Skills Boost:** Introduction to Responsible AI *January 2025*
- **Google Cloud:** Innovating with Google Cloud AI *December 2024*
- **Google Cloud Skills Boost:** Introduction to Generative AI *October 2024*
- **Amazon Web Services (AWS):** Introduction to Machine Learning: Art of the Possible *September 2024*
- **Amazon Web Services (AWS):** Introduction to Robotics on AWS *September 2024*

EDUCATION

- **M.Sc Computer Engineering (Specialization: Robotics Engineering)** *September 2021 - March 2024*
  University of Genoa Italy
- **B.Tech Mechatronics Engineering** *July 2016 - June 2020*
  University of Petroleum & Energy Studies India

PROJECTS

- **Artificial Intelligence Portfolio**
  - **Automated Warehouse Scenario Using PDDL 2.1:** This project aims to create an AI planning warehouse optimization system that enhances order management, storage efficiency, and logistics through advanced planning, priority queues, plan graphs, and realtime analytics. [GitHub]
  - **Task and Motion Planning for Robotics in Coffee Shop Scenario:** The goal of this project is to integrate task and motion planning for robotic navigation using PDDL based planners, state space graphs, BFS, heuristic search, and Euclidean distance computation. [GitHub]
- **Machine Learning Portfolio**
  - **Cervical Cancer Detection using CNNs and VGG16 Module - TensorFlow:** The objective is to deploy Deep learning based cervical cancer detection using VGG16 Convolutional Neural Network (CNNs) in TensorFlow with comprehensive preprocessing, training, and evaluation. [GitHub]
  - **Convolutional Neural Networks (CNNs) to Process an Image - PyTorch:** The goal of this experiment is to implement Convolutional Neural Networks (CNNs) in Jupyter/Python using PyTorch for efficient image processing and analysis with deep learning techniques. [GitHub]
- **Frontend Web Development Portfolio**
  - **Restaurant Website - HTML & CSS:** This project hosts a restaurant website implemented using HTML, CSS, and some minor functions in JavaScript, demonstrating front-end development skills and basic web design principles. [GitHub]
- **Robotics Portfolio**
  - **Software Architecture for Mobile Robot Control:** This assignment involves developing a software architecture for controlling a ROS based mobile robot by applying graph based routing, Dijkstra's algorithm, and Python implemented controller/UI nodes. [GitHub]
  - **Integration of Autonomous Surveillance Robot Architecture with Robotic Simulation for Indoor Environment Mapping and Patrolling:** This work integrates an autonomous surveillance robot, demonstrating semantic mapping, navigation, OpenCV ROS, and SLAM, implemented with data structures and algorithms in C++ and Python. [GitHub]

HOBBIES

• Photography • Hiking • Chess • Cricket • Traveling • Driving

REFEREE

Claudia Lunini
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