

# ANKUR KOHLI

## SOFTWARE ENGINEER



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*Aspiring Software Engineer with a strong foundation in Python, C/C++, Dart, Flutter, API-driven client-server development, Java, Bash, Powershell, & 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 real-time, multi-threaded ROS2 backends, ensuring secure, low-latency communication for intelligent robotic systems.
- Built and deployed autonomous SLAM-based mapping and navigation pipelines with Dockerized ROS2, CI/CD workflows, and real robot deployment, enabling hardware-agnostic scalability and faster operations.
- Conducted software testing, validation, and debugging via GitLab CI/CD and GitLab Issues, improving system reliability and robustness.
- Authored technical documentation and architecture diagrams, enhancing team collaboration, maintainability, and adherence to software engineering best practices.

### • Thesis Project

June 2023 - February 2024

NTT DATA Italia

Italy

- Developed real-time, multi-threaded ROS2 backends, ensuring secure, low-latency performance and improving system efficiency by 30% for intelligent robotic systems.
- Built and deployed SLAM-based mapping and navigation pipelines in Dockerized ROS2 with CI/CD workflows, enabling hardware-agnostic 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 (minority)

#### 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

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- **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*
- **Google Cloud Skills Boost: Introduction to Generative AI** *October 2024*
- **Simplilearn: Innovating with Google Cloud AI** *December 2024*
- **Google Cloud Skills Boost: Responsible AI: Applying AI Principles with Google Cloud** *January 2025*
- **Google Cloud Skills Boost: Introduction to Responsible AI** *January 2025*

## EDUCATION

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- **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

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- **Artificial Intelligence Portfolio**
  - **Automated Warehouse Scenario Using PDDL 2.1:** This project aims to create an AI-planning warehouse optimization system enhancing order management, storage efficiency, and logistics through advanced planning, priority queues, plan graphs, and real-time analytics. [🔗]
  - **Task and Motion Planning for Robotics in Coffee Shop Scenario:** The goal of this is to integrate task and motion planning for robotic navigation using PDDL-based planners, state-space graphs, BFS, heuristic search, and Euclidean distance computation. [🔗]
- **Machine Learning Portfolio**
  - **Cervical Cancer Detection using CNNs and VGG16 Module - TensorFlow:** The object is to deploy Deep learning-based cervical cancer detection using VGG16 Convolutional Neural Networks (CNNs) in Tensor-Flow with comprehensive preprocessing, training, and evaluation. [🔗]
  - **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. [🔗]
- **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. [🔗]
- **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. [🔗]
  - **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. [🔗]

## HOBBIES

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- Photography
- Hiking
- Chess
- Cricket
- Traveling
- Driving

## REFEREE

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**Claudia Lunini**  
Lead of Smart Robotics, NTT DATA Innovation Center  
NTT DATA Italia S.p.A  
Email: claudia.lunini@nttdata.com  
Relationship: Advisor

**Marco Monforte**  
Senior Software Engineer  
NTT DATA Italia S.p.A  
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Relationship: Supervisor