

# Rishabh Tiwari

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## Work Experience

### Porsche Engineering

Bietigheim-Bissingen, Germany

MACHINE LEARNING INTERN AND MASTER THESIS

Nov 2024 - Present

- Developing an in-house machine learning tool for converting geo.JSON data to OpenDRIVE, a solution saving the company over €200K annually.
- Built and integrated a VR-driven driving assistant prototype by connecting Unity with robotic systems using C#, Python, and protobuf.
- Started an internal LLM research for geospatial data interpretation, optimising accuracy for road modeling and simulation environments.

### SAP-SE

Walldorf, Germany

SOFTWARE DEVELOPER - WORKING STUDENT

June 2024 - Present

- Assisted in troubleshooting and resolving technical issues related to SAPUI5 development.
- Contributed to the design and implementation of software solutions using SAPUI5.
- Was involved in several model enhancements which involved writing efficient code adhering to software engineering best practices.

### University of Heidelberg

Heidelberg, Germany

GRADUATE STUDENT RESEARCH ASSISTANT

May 2024 - Apr 2025

- Worked on fine-tuning LLMs for research projects based on time series prediction.
- Collaborated with faculty to refine and deliver course material on Deep Learning, LLMs, and NLP for undergraduate and graduate students.
- Developed a web user-interface using React, TypeScript and Docker to run several experiments based on Machine Learning Human Behavior

### Datrix AI Solutions

Milan, Italy

SOFTWARE ENGINEER INTERN

Jan 2024 - Apr 2024

- Re-designed the web user-interface modules from Vue.js to React and TypeScript.
- Led structured code reviews and introduced reusable patterns, resulting in a 25% improvement in maintainability across internal repositories.
- Supported the integration of scalable components with RESTful APIs, improving app performance in production deployments.

### University of Heidelberg

Heidelberg, Germany

SOFTWARE ENGINEER INTERN

Apr 2023 - Mar 2024

- Developed a 2D Super Mario-style platformer game using C# and Unity, focusing on gameplay mechanics and level design.
- Led the team as Scrum Master, organizing sprints and retrospectives to ensure consistent progress and team coordination.
- Adopted a test-driven development (TDD) approach, improving code reliability and simplifying future feature integration.

### ABB Heidelberg

Heidelberg, Germany

WORKING STUDENT - IT PROJECT MANAGEMENT

Mar 2023 - Aug 2023

- Worked with MSSQL queries to maintain and operate the SAP and ABB databases
- Improved frontend responsiveness and dashboard performance using React and TypeScript, cutting average query time by 50%.
- Assisted with sprint planning and digitalization initiatives, contributing to improved internal tooling and reporting.

### Amazon

Kolkata, India

TECHNICAL ACCOUNT MANAGER

Jan 2022 - Sep 2022

- Worked directly with brand owners to troubleshoot technical issues, increasing customer satisfaction scores by 78%.
- Managed high-impact escalations to maintain service uptime and reduce resolution time for critical cases.

## Skills

#### Programming

C++, C, C#, Java, Python, HTML, CSS, JavaScript, TypeScript, SQL

#### Areas of Interest

Data Structures, Algorithmic Programming, OOP, Software Engineering, Machine learning, LLMs, RAG

#### Technologies

Git, Github, Docker, Postgres, React, React-Native, Unity, Node.js, RESTful APIs

## Education

### Ruprecht-Karls-Universität Heidelberg

Heidelberg, Germany

M.SC. IN DATA AND COMPUTER SCIENCE

Oct 2022 - Nov 2025

- German Grade Point Average, GPA: **1.4/5.0**

### Politecnico di Milano

Milan, Italy

M.SC. IN COMPUTER SCIENCES AND ENGINEERING

Sep 2023 - Jul 2024

- German Grade Point Average, GPA: **1.3/5.0**

## Projects

CorpRanks – Verified Reviews of Companies

Politecnico di Milano, Italy

M.SC. WEB DEVELOPMENT PROJECT MADE FOR BYTEOOLBOX SRL — MD-CORP-RANKS

Feb 2024 - Jul 2024

- Built interactive frontend components including login flows, company profile pages, and review forms in React, improving user engagement.
- Participated in Agile sprint planning and code reviews, helping maintain consistency and fast iteration across a multi-developer team.

Kosjenka – Reading App for Children

Politecnico di Milano, Italy

M.SC. WEB DEVELOPMENT PROJECT MADE FOR VISAGE TECHNOLOGIES — KOSJENKA-READING-APP

Feb 2024 - Jul 2024

- Led project execution as Scrum Master, coordinating sprints and retrospectives to ensure smooth delivery and team alignment.
- Introduced UI improvements and testing workflows, contributing to faster QA cycles and more consistent feature releases.

Medical Question Answering System

Politecnico di Milano, Italy

M.SC. NATURAL LANGUAGE PROCESSING PROJECT — NLP-POLIMI-PROJECT

Feb 2024 - Jul 2024

- Explored the semantics of a medical dataset using Word2Vec embeddings, keyword indexing, and clustering visualizations.
- Implemented a linear classifier and benchmarked its performance against transformer-based models including BERT and OpenAI APIs.

Causally Ordered Group Chat Application

Politecnico di Milano, Italy

M.SC. DISTRIBUTED SYSTEMS PROJECT — CAUSALLY-ORDERED-GROUP-CHAT

Oct 2023 - Mar 2024

- Designed a distributed group chat system supporting causally ordered messaging across peer-to-peer participants.
- Enabled chat room creation, deletion, and consistent state across peers without a central server.
- Ensured message delivery integrity and offline support during temporary network splits.

Group Monitoring for IoT

Politecnico di Milano, Italy

M.SC. INTERNET OF THINGS SYSTEMS PROJECT — GROUP MONITORING IN IOT

Oct 2023 - Mar 2024

- Built a system for detecting and monitoring dynamic group formation among mobile IoT devices using Contiki-NG and the COOJA simulator.
- Developed backend logic in Node-RED to compute group lifetime, cardinality statistics, and member activity via MQTT-UDP communication.
- Simulated decentralized group behavior and real-time reporting through multi-hop RPL routing, supporting timeout detection and survivability checks.

Sentiment Analysis of YouTube Comments

Heidelberg, Germany

M.SC. DATA SCIENCE IN TEXT ANALYTICS PROJECT — SENTIMENT ANALYSIS OF YOUTUBE COMMENTS

Oct 2022 - Mar 2023

- Built a sentiment classification pipeline using Support Vector Machines, trained on YouTube comment datasets
- Evaluated model performance by testing on Amazon reviews, focusing on sentiment polarity (positive, neutral, negative).
- Created a lightweight UI to visualize predictions and review-level sentiment breakdowns.

## Publication

B.Sc. Thesis Publication

Kolkata, India

GENERATION OF FACIAL DRAWINGS USING GENERATIVE ADVERSARIAL NETWORKS

Aug 2019

- Published an article: "Generation of Facial Drawings Using Generative Adversarial Networks" in the International Journal of Engineering and Advanced Technology (IJEAT), ISSN: 2249 – 8958, Volume-8 Issue-6, August 2019.

## Honors and Achievements

- 2024

Top-5 teams, Google Developer Student's Club Ed- Tech Hackathon
- 2025

Top 1% of the class, Deutschlandstipendium 2024-25 for academic excellence

Milan, Italy

Uni Heidelberg

## Languages

- English

C2 – Fluent / Professional Proficiency
- Hindi

C2 – Native or Bilingual Proficiency
- German

A2–B1 – Elementary to Intermediate Proficiency