

# Sarthak Bajaj

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## Skills

**Languages** Java, Python

**Tools** Maven, GIT, SQL, Power BI

## Experience

### Robot Programming Intern

October 2024 – February 2025

*Institute of Anthropomatic and Robotic KIT*

- Programmed a Lego Mindstorms robot for obstacle navigation in a team.
- Applied Micropython for algorithms, sensors, and automation.
- Developed teamwork and problem-solving skills.

### Robot Learning Seminar

October 2024 – February 2025

*Intuitive robots lab KIT*

- Deep concepts like neural networks and transformers were learned. And how topics like word embeddings and keyframes are important in the sense of Robot. how different modalities and 6 DOF are related. Topics such as multimodal learning also came into play.

### Working Student

May 2024 – Present

*Java Developer (Simus Systems)*

#### Features

- Added some new Features in the Simus Classmate Software.

#### Bugs

- Resolved some bugs that bought impact in the company software

### Developer

April 2024 – September 2024

*Software Developer (Intuitive Robots Lab(KIT))*

- Conducted requirement analysis for a robot web application project using Flask and Angular, following a feedback-driven Waterfall model.
- Contributed to the design phase, creating class diagrams and employing the MVP architecture for deployment on an intuitive robotics lab server.
- Led the implementation phase, meeting all required and most desired specifications, with iterative refinements.
- Tested and debugged the application post-implementation, culminating in a successful final presentation of the project.

## Education

### Karlsruhe Institute for Technology(KIT)

Present

*Bachelor of Science in Computer Science*

- Linear Algebra
- Database management System
- Networking
- Automata Theory

### HTWG Hochschule Konstanz - Technik, Wirtschaft und Gestaltung

October 2021 - July 2022

*Studienkolleg, Technical Course*

- Grade: 1.8
- Improved German language skills to C1 level
- Enhanced programming competencies

## Projects

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### Slot Maschine Simulator

Nov 2024 – Nov 2024

- Developed an interactive Python-based slot machine game with customizable paylines, betting limits, and randomized gameplay.
- Implemented robust algorithms for winnings calculation and dynamic user input validation to enhance user experience.

### Hex Game with 2 AI

Sep 2023 – Sep 2023

- Developed a Java-based game using pathfinding algorithms (BFS, DFS, Dijkstra) to navigate a board. Implemented the MVC architecture to manage game logic and interface.

### TODO Task Manager

Aug 2023 - Aug 2023

- Built a task management application using Java and MVC architecture. Leveraged the Collections API, including Set, LinkedList, and HashMap, to manage 30-35 classes with Enums and Interfaces.

## Language Skills

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- German C1
- English C1
- Hindi Native
- Japanese N5