

# Johannes Hirt

B. Sc. Software Engineering

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## Education

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<b>M.Eng.</b>	<b>Technical University Ulm</b> , Ulm, Germany Systems Engineering and Management – Electrical Engineering	2025 – 2026 (expected)
<b>Summer Course</b>	<b>Virginia Tech</b> , Blacksburg, USA Fulbright scholarship for a course in Leadership and Entrepreneurship.	2024
<b>Exchange</b>	<b>Northumbria University</b> , Newcastle upon Tyne, England <ul style="list-style-type: none"><li>GPA: 4.0</li><li>Completed advanced coursework in Computer Science and Engineering.</li><li>Gained cross-cultural communication skills and international academic experience.</li></ul>	2022
<b>B. Sc.</b>	<b>Heilbronn University</b> , Heilbronn, Germany B. Sc. in Software Engineering <ul style="list-style-type: none"><li>GPA: 3.7</li><li>Specialized in Embedded Systems and Integrated Sensors.</li></ul>	2021 – 2025

## Experience

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<b>Working Student</b> , Diehl Defence	Überlingen, Germany 2025.09 – Today
<b>Freelance Developer</b> , Eviyo GbR <ul style="list-style-type: none"><li>Developed a website for bookable leisure activities in the Heilbronn region.</li><li>Created a dynamic, modern, and user-friendly website using a full-stack approach within a small team.</li><li>Implemented features for user authentication, booking management, and secure payment processing.</li><li>Used technologies such as React.js for the frontend.</li></ul>	Remote 2024.09 – 2024.11
<b>Intern</b> , Diehl Defence <ul style="list-style-type: none"><li>Built a custom tooling layer for a Nexus-based artifact repository, with a Java/JavaFX desktop client and SQLite cache for fast, structured browsing of metadata.</li><li>Developed a modular calculation tool for test and validation workflows with configurable input models, automated checks, and structured result reports.</li><li>Converted a Python console tool for HTML-to-Word report generation into a cross-platform GUI application with clear validation, progress display, and robust error handling.</li><li>Gained practical experience in digital hardware design on Basys 3 FPGA boards (Verilog RTL, Vivado flow, on-board debugging, basic timing analysis).</li></ul>	Überlingen, Germany 2023.03 – 2023.08

## **Student Assistant**, Heilbronn University

- Mentored undergraduate students in design thinking and work techniques.
- Helped organize the annual career fair.

Heilbronn, Germany

2021.09 – 2024.07

## **Projects**

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### **Improvement of Localization and Self-Motion Estimation of a Unitree Go1 Robot**

- Improving localization and self-motion estimation of a Unitree Go1 robot as part of an advanced robotics project.

Technical University of Applied Sciences Ulm  
2025.09 – 2026.02

### **Machine Learning Algorithm Based on Electric Potential**

- Research project on developing a new machine learning algorithm to classify datasets based on the principle of the electric potential.

Heilbronn University  
2024.03 – 2024.07

### **Embedded Systems Project: 3D Scanner Using LiDAR**

- Built an embedded systems project using a LiDAR sensor to create a 3D scanner.

Heilbronn University  
2024.03 – 2024.07

### **LoRa-Based Presence Detection System**

- Designed a LoRa-based system for presence detection in university study areas.

Heilbronn University  
2023.09 – 2024.02

### **Portfolio Website**

- Developed a personal portfolio website to showcase projects and skills.

Own project  
2025.07 – 2025.08

## **Awards and Honors**

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- Fulbright Scholarship, Summer course at Virginia Tech 2025.08
- Company Scholarship, Bechtle AG 2023.09
- Company Scholarship, Vector Informatik GmbH 2022.09

## **Skills**

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**Languages:** German (C2), English (C1), French (B1)

**Programming:** Python, C, C++, Java, JavaScript, MATLAB

**Embedded Systems:** Verilog, VHDL, ROS2, Vivado IDE, FPGA (Basys 3)

**Machine Learning & Data:** scikit-learn, pandas, NumPy, Jupyter, TensorFlow

**DevOps & CI/CD:** Git, GitHub, GitLab CI, Docker, Bash, Jenkins

**Build Tools:** CMake, Gradle, Maven

**Databases:** SQLite, MySQL, DjangoDB

**Cloud & Hosting:** Netlify, AWS

**Electrical Engineering:** Electrical systems modeling & simulation, EDA

**Software Engineering:** Software architecture, Software design, Modular coding

**3D Printing:** CAD

## **Leadership & Activities**

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### **SV Großschönach**

- Amateur football player for the local team.
- Organizing events and work assignments throughout the year.
- Assisting with youth activities during summer.

Großschönach, Germany

2001.07 – Today