

# Thiago Trannin

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## SUMMARY

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Software engineer pursuing a Master's double degree in Electrical and Automotive Engineering, and fascinated by how computers work. As a former competitive programming competitor, I'm very competent when it comes to algorithms, data structures and Computer Science fundamentals. Lately, I've been passionate about systems programming, networking and low level software in general — I'd be very happy to work in a team of talented individuals whose interests line up with mine.

## SKILLS

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**Programming languages:** C, C++, Rust, Zig, Python, JavaScript, TypeScript, Haskell, VHDL

**Frontend:** React, React Native, Tailwind, Astro

**Backend:** Node.js, Flask, Axum

**Databases:** PostgreSQL, SQLite

**Data processing:** NumPy, Pandas, OpenCV, PyTorch

**Environment tools:** Linux, Docker, Git, Bash, ROS

**Languages:** Portuguese (native), English (fluent), German (intermediate)

## EXPERIENCE

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### Student Assistant

Technische Hochschule Ingolstadt

May 2025 — March 2026

Ingolstadt, Germany

- Extended the V2X open-source simulation framework Artery to support transmission of VAMs (VRU Awareness Messages) by bicyclists.

### Backend Engineer Intern

C Channel

November 2024 — December 2024

Tokyo, Japan

- Assessed the impact in customer conversions of using event data from the company's in-house e-storefront platform. Implemented integrations with the Conversion APIs from Meta and TikTok.
- This position was sponsored by the Japanese government by means of a coding contest which involved students from countries in Africa and Latin America. The best candidates were invited for a month-long internship at a Japanese company.

### Software Developer I

Software Developer Intern

Pumatronix

June 2024 — February 2025

July 2023 — May 2024

Curitiba, Brazil

- Developed embedded software that runs in traffic control cameras.
- Worked on very diverse tasks in firmware development and systems programming: from optimization of image processing routines and design of data processing pipelines to parsers, logging systems, FFI, network protocols, CPU and memory profiling, web interfaces and automated testing.
- Refactored a monolithic C++ project in smaller, independent modules. Pioneered Rust adoption in safety-critical functionality and maintained its integration with existing code via the C ABI.

### Machine Learning Engineer Intern

DeepX

January 2023

Tokyo, Japan

- Designed a keypoint detection model for estimation of the position in 3D space of an excavator machine's arm; the model's input was the video feed from a camera above the operator's seat.
- This position was sponsored by the Japanese government by means of a coding contest which involved students from countries in Africa and Latin America. The best candidates were invited for a month-long internship at a Japanese company.

### Development Analyst

Software Developer Intern

Fiscaltech Tecnologia e Automação

May 2022 — December 2022

July 2021 — April 2022

Curitiba, Brazil

- Applied classic computer vision algorithms to detect vehicles stopped over crosswalks.
- Researched and developed deep learning models for smart traffic monitoring applications, such as vehicle classification, vehicle tracking and license plate reading via optical character recognition.
- Deployed cross-compiled native libraries that abstracted over the aforementioned problems, with accompanying wrappers for high-level languages.

## **EDUCATION**

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### **Technische Hochschule Ingolstadt (THI)**

Master's degree in Automotive Engineering

**Ingolstadt, Germany**

March 2025 — Present

### **Federal University of Paraná (UFPR)**

Master's degree in Electrical Engineering

**Curitiba, Brazil**

July 2024 — Present

### **Federal University of Paraná (UFPR)**

Bachelor's degree in Electrical Engineering

**Curitiba, Brazil**

January 2019 — June 2024

- Emphasis on Electronics and Telecommunications
- Thesis title: "Artificial noise applied to PLC systems under threat of WLC eavesdropper"

## **AWARDS**

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### **2024 – International Collegiate Programming Contest (ICPC) South America / Brazil Finals – Highest Honor**

23rd place out of 65 teams

### **2024 – Professor Plínio Alves Monteiro Tourinho Award – Gold medal**

Top of the class in Electrical Engineering: academic performance index 0.9858/1.0

### **2018 – Brazilian Public School Mathematics Olympiad (OBMEP) – Bronze medal**

Level 3 – private school