

Dominik Chraca

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EDUCATION

Master of Science (MS) in Electrical Engineering, GPA: 3.57/4.0

August 2020 - Dec 2022

Illinois Institute of Technology (IIT), Armour College of Engineering, Chicago, IL

Bachelor of Science (BS) in Computer Engineering, GPA: 3.57/4.0

August 2018 - Dec 2022

Illinois Institute of Technology (IIT), Armour College of Engineering, Chicago, IL

SKILLS

Software: Python, NumPy/Pandas, PyCharm, micropython, C, C++, Siwave, Fusion 360, LTSpice, Eagle, Mentor, and Cad Star, CST Studio, Excel, PowerPoint, Worst case circuit analysis (WCCA), oscilloscopes, Vector Network Analyzer (VNA)
Languages: English, Polish

PROFESSIONAL EXPERIENCE

Ford Motor Co. | Sunrise, Florida

Digital Design Engineer

Feb 2023 – Present

- Part of the platforms team working on the Network Node of the vehicle.
- Worked on design validation and design testing by improving and automating current testing/validation procedures using **Python**.
- Used simulations (**Siwave**) to analyze and validate test results and circuit design.
- Worked cross-functionally with manufacturing team, software team, and IC vendor to debug and solve a part issue.
- Multi-sourced several memory vendors, saving Ford a considerable amount of money as well as increasing the robustness of the product.
- Completed **worst case circuit analysis** for several memory designs.
- Created and Validated Power deliver networks for several memory designs.

Garmin | Olathe, Kansas

Electrical Design Intern

May 2022 – August 2022

- Part of the Fitness team working on consumer products (Venu 3, Edge, etc.)
- Worked on designing an automated testing platform to help mainstream power consumption testing. This includes the schematic, layout, and software using **CADStar**.
- Worked with routing high frequency signals, ie. USB
- Worked on upgrading the display driver IC for the FR955 product.

Cummins Allison / Crane Payment Innovations (CPI) | Mount Prospect, Illinois

Coin and note counting machines, credit card readers, etc.

Embedded Systems Intern

May 2021 – August 2021

- Completed various tasks including memory mapping, code maintenance, and bug fixes.
- Worked on the **STM32 Arm Cortex M3 and M4**
- Installed and implemented **micropython** for easier debugging capabilities.

Embedded Systems Intern

May 2020 – August 2020

- Programmed the SoC using **C**.
- Completed various tasks including: I2C error capturing, various sorting algorithms, code maintenance, and bug fixes.
- Worked on the **STM32 Arm Cortex M3 and M4**

PROJECTS

Bluetooth Speaker (more info on project can be found on LinkedIn profile)

May 2022 – Aug 2022

- Designed and created a Bluetooth speaker from scratch with the following specs: 10AH Lithium-ion battery, 100W amplifier, 12V to 21V boost converter, 12V to 3.3V buck converter, BM83 Bluetooth module.
- The Bluetooth speaker is fully operational and features many different circuitry and functionality. The speaker was created using **Autodesk Eagle** and printed from **JLC PCB**.
- Considerable debugging was done with oscilloscope; in the end, the Bluetooth speaker functioned as intended.

Society of Automotive Engineers

September 2018 – May 2022

- Serving as The Electrical Team Leader
- Designing and constructing a formula one car.
- In charge of managing a team for the electrical design of the car.
- Worked with **CAN bus** protocol and data flow of information.
- Worked on PCB designs, power systems, and battery housing design.
- Programmed the embedded electronic control unit.