FILIP GEIB

ROBOTICS MASTER STUDENT

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PROFILE

I am a second-year master's student of robotics at KTH in Stockholm. I have experience in embedded hardware and software development, machine learning, and research. I would like to continue my career as a robotics R&D engineer based in Switzerland. Currently, I am looking for an opportunity to work on a robotics-related master's thesis project starting in January 2023.

EXPERIENCE

Ericsson AB
6/2022 - 9/2022, Stockholm, Sweden

ROBOTICS MACHINE LEARNING INTERN

- Worked on object detection & tracking pipeline in ROS.
- Designed multiple machine learning models in Python.
- Created spectral-based feature extraction from image.

Septentrio N.V.
6/2021 - 10/2021, Leuven, Belgium

EMBEDDED SYSTEM ENGINEERING INTERN

- Created hardware board extending GNSS receiver.
- Designed system, schematics, and PCB in KiCad.
- Coordinated PCBs manufacturing and assembly.
- Developed ethernet drivers and example scripts in C.
- Project repository at github.com/septentrio-gnss/mowi.

VisionSpace Tech. GmbH
6/2020 - 9/2020, Darmstadt, Germany

EMBEDDED HARDWARE ENGINEERING INTERN

- Created STM32-based onboard computer for CubeSat.
- Designed system, schematics, and PCBs in KiCad.
- Simulated designed circuits in LTSpice and TINA-Ti.
- Manually populated PCBs with fine-pitch components.
- Tested performance under radiation, published results.
- Project repository at github.com/visionspacetec/VST104.

EDUCATION

KTH Royal Institute of Technology
9/2021 - ongoing, Stockholm, Sweden

MSc SYSTEMS, CONTROL & ROBOTICS

Focused on control systems and machine learning.
Graduation expected 6/2023.

Czech Technical University in Prague
9/2018 - 6/2021, Prague, Czech Republic

BSc CYBERNETICS & ROBOTICS

Focused on electrical engineering and control systems.
Graduated with honors.

EXPERIENCE CONT.

KTH Royal Institute of Technology
1/2022 - now, Stockholm, Sweden

HARDWARE SECURITY RESEARCH ASSISTANT

- Member of cryptographic research group (part-time).
- Developing side-channel attacks and counter-measures.
- Working on signal processing in MATLAB and Python.

JRC of the European Commission
7/2019 - 9/2019, Ispra, Italy

SENSOR FUSION RESEARCH TRAINEE

- Worked on vehicle identification using machine learning.
- Developed method of processing IMU measurements.
- Coded in mixed environment of MATLAB and Python.

COMPETENCIES

HW and SW integration.
Proficiency with lab equipment.
Soldering, assembly, integration.
Capabilities in multidisciplinary engineering.
Task analysis and proposal of new design ideas.
Responsible, independent, and proactive approach.

SKILLS

C/C++	Python	MATLAB	Simulink	GitHub/Lab	Linux
KiCad	EAGLE	LTspice	FreeCAD	STM32 Cube	ROS
LaTeX	Soldering	Prototyping	3D printing		

PUBLICATIONS

2020 Baldini, G.; Giuliani, R.; Geib, F.
On the Application of Time Frequency Convolutional NeuralNetworks to Road Anomalies mdpi.com/885632

2019 Baldini, G.; Geib, F.; Giuliani, R.
Continuous Authentication of Automotive Vehicles Using Inertial Measurement Units mdpi.com/585364

2021 with Czech Technical University
Conference on Sensors, Systems and Measurement
2021 with VisionSpace Tech. GmbH
5th ESA CubeSat Industry Days
2020 with VisionSpace Tech. GmbH
Open Source CubeSat Workshop

ACHIEVEMENTS

2021 by Czech Technical University
Dean's award for outstanding thesis
2019 by Czech Technical University
Winner of faculty MATLAB tournament
2018 by Gymnasium M.M. Hodža
Summa cum laude distinction
2018 by LEAF
Funding and laureate of Leaf Award
2017 by CERN IPPOG
National winner of Cascade competition