



AKOS PASZTOR

ELECTRICAL ENGINEER • HARDWARE AND FIRMWARE DEVELOPER

AWARDS

“KBME” Professional Scholarship of Faculty 2015
25 participants (out of 500) were awarded based on outstanding academic work and GPA.

“Rubin Young Talent Sustainability in Engineering” Special Prize, and Scientific Students Association Conference - Third Prize 2014
Achieved for presenting “*Development of a Modular Home Automation System*” (see below) at Scientific Students Association Conference among 90 participants.

WORK EXPERIENCE

Hardware & Firmware Engineer at Sensirion AG 2018 - Present
Engineered the hardware, including circuit design, simulation and PCB layout of various sensor modules of consumer, industrial and automotive fields. Wrote the firmware (including unit- and system tests) for modules, participated in building up automotive-grade firmware libraries for microcontrollers and maintained the internal infrastructure, including CI/CD and testing systems.

Embedded Design and Hardware Engineer at Zurich Instruments AG 2018
Worked on the next-gen. measurement devices, including firmware development for Xilinx SoC FPGAs and Linux kernel driver development. Engineered a custom power supply with USB PD.

Embedded Hardware & Software Developer at ETH Zürich 2016 - 2018
Worked in the Computer Engineering Group of ETH Zürich. Engineered the “*Wireless GPS*” device, used state-of-the-art technologies, added cellular. Wrote the RTOS-based firmware from scratch. The design went into production, and devices were deployed to the Swiss mountains.

Assistant at Department of Automation and Applied Informatics, BUTE 2015
Worked as an assistant in the microcontroller laboratory, guided and tutored more than 50 BSc. students, evaluated their semester projects including hardware and software development.

Hardware Developer, Software and Web Developer at SeaSoft Ltd. 2009 - 2015
Developed various GSM-based data acquisition hardware. Developed configurator software for devices in C++ using Qt SDK. Developed own C++ libraries for communicating with hardware.

PROJECTS

Geophone Platform 2017 - 2018
Developed a state-of-the-art, networked geophone platform with ultra-low power consumption; always-on, dual-side, multi-stage triggering; co-detection and more. The device went into production and it serves as a basis for multiple, state-of-the-art seismic research projects.
<https://akospasztor.com/projects/geophone/>

WuLoRa: Energy-Efficient IoT Sensor Node 2017
Developed as a semester thesis at ETH Zürich, featuring always-on wake-up radio, LoRa, dual-microcontroller platform, numerous sensors and ultra-low power consumption.
<https://akospasztor.com/projects/wulora/>

Home Automation System 2014
Led a team in close collaboration and developed a home automation system from scratch. Developed the hardware, featuring 32-bit ARM MCU, LCD touch screen, Bluetooth, 2.4G radio, Ethernet, USB, Sensors, SD card with FAT file system support. Wrote the embedded firmware.
<https://akospasztor.com/projects/homecontrol/>

The myPhone project 2013
Developed a mobile phone from scratch, featuring GSM, initiate and receive calls, LCD screen, custom foil keyboard, battery, charging circuit, contacts management, USB communication.
<https://akospasztor.com/projects/myphone-v2/>

EDUCATION

ETH Zürich 2015 - 2018
MSc. degree in Electrical Engineering and Information Technology.
Member of Computer Engineering Group.

Budapest University of Technology and Economics 2011 - 2015
BSc. degree: excellent with highest honors, finished in top 5% of graduates based on GPA.
Ranked absolute 1st among students during embedded systems specialization semester.

CONTACT

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SKILLS

Hardware

- Analog & digital circuits
- PCB design
- Altium Designer, Nexus
- Microcontrollers
- Ultra-low power design
- Hardware analysis
- Simulation, SPICE
- Testing, debug, soldering

Firm- and Software

- C, C++
- Embedded C, Assembly
- Bare-metal firmware
- RTOS
- Advanced debug & tracing
- Qt SDK
- Python, pytest
- SCons
- Testing, Unit test, CppUTest
- DevOps (CI/CD)
- Version control (git, svn)

LANGUAGES

- English - fluent
- German - intermediate
- Hungarian - native

INTERESTS

Smart applications, Gadgets,
Sensors, Communication,
Mobile tech, Automation

Driving, Swimming,
Snowboarding, Judo