STEFAN GVOZDENOVIC

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EDUCATION

Boston University (BU), Boston, MA *Aug 2018 - Sep 2023*
Ph.D. in Electrical and Computer Engineering
Worcester Polytechnic Institute (WPI), Worcester, MA *Aug 2012 - May 2015*
Bachelor of Electrical and Computer Engineering Overall Result (GPA): 3.9/4.0

WORK EXPERIENCE

Senior Engineer, Analog Devices *Oct 2023 - Present*
Supporting broad market customers in software-defined radio transceivers such as ADRV9002
Radio Software Engineer, Silicon Labs *Jan 2016 - Jun 2018*
Developed time-critical library in C/Assembly for 802.15.4 and BLE PHY layer
Designed interframe spacing measurement methods in Python for Bluetooth LE
Software Engineer, Analog Devices *Jun - Dec 2015*
Developed tests for SC584 SoC's peripherals CAN, Linkport, Ethernet, USB, DDR3
Research Assistant, WPI *Sep 2014 - May 2015*
Implemented timestamp-free network synchronization on TMS320C6713 DSP board
Programmed proportional-integral-derivative speed controller on ATMEGA328 microcontroller
Product Engineer, Analog Devices *May - Aug 2014*
Characterized harmonic distortion, open-loop gain, bias current of ADA4805 op-amp
Teacher Assistant, WPI *Jan - May 2014*
Debugged real-time C written on MSP430F5529 interfacing SPI, CAN, I2C, UART

ACADEMIC PROJECTS

Internet-of-Things (IoT) Software-Defined Radio (SDR) Scanner, BU *Jun 2020 - Jun 2023*
Built IoT-Scan: multi-channel multi-protocol software-defined radio scanner
Implemented BLE (Bluetooth Low Energy) PHY (physical layer) receiver in software
GRAND (Guessing Random Additive Noise Decoding) on SDR, BU *Jan 2022 - Jun 2023*
Implemented hard decision GRAND demo over BSPK over-the-air channel in GNU Radio
Machine Learning based C-V2X Jamming Detection, BU *Sep 2021 - May 2022*
Mentored senior design team, used srsLTE library, synchronized USRP-s with signal generators
Ran real world over-the-air LTE end-to-end system (eNB and UE) throughput tests
Real-Time Digital System Processing, WPI *Oct - Dec 2013*
Implemented FIR and IIR adaptive filters for audio noise cancellation
Electrical and Computer Engineering Design, WPI *Mar - May 2013*
Designed schematic and PCB for data logger. Soldered packages: QFN, 48-LQFP, 0603
Programmed the serial peripheral interface between sensor ADT7310 and STM32f051
Real-Time Embedded Systems, WPI *Oct - Dec 2012*
Programmed one channel oscilloscope on OLED display using LM3S8962 controller
Programmed spectrum analyzer by performing Fast Fourier Transform on LM3S8962

SKILLS

Software: Arduino, C/C++, Linux, Python, BLE, Zigbee, LoRa, Wi-Fi, MATLAB, Multisim, PCB layout, 3D printer, Verilog, AWS, Docker, GNU Radio, IoT
Hardware: USRP, EFR32, ARM, Logic/Spectrum analyzer, Oscilloscope, Robotics, SatNOGS
Foreign Languages: Native Serbian, Advanced German, Basic Russian

EXTRA-CURRICULAR

Open Water Scuba Diving certificate, Boston, MA *Nov 2018*
Editorial office of the Libre magazine about free software *Nov 2017 - Present*
Ham radio operator, Boston, MA *Oct 2016*
Cape Cod Marathon 2013, Falmouth, MA *Oct 2013*
Volunteer at Arduino booth at Maker Faire , NY, NY *Sep 2013*
International Physics Olympiads (IPhO), Tallinn, Estonia *Jul 2012*

PUBLICATIONS

Stefan Gvozdenovic, Johannes K. Becker, John Mikulskis, and David Starobinski, "IoT-Scan: Network Reconnaissance for the Internet of Things," IEEE Internet of Things Journal, October 2023

Stefan Gvozdenovic, Johannes K. Becker, John, Mikulskis, and David Starobinski, "Multi-Protocol IoT Network Reconnaissance," IEEE CNS 2022, Austin, TX, October 2022.

Stefan Gvozdenovic, Johannes K. Becker, and David Starobinski, "SDR-based PHY Characterization of Zigbee Devices," IEEE MWSCAS 2020, August 2020.

Stefan Gvozdenovic, Johannes K. Becker, John Mikulskis, and David Starobinski, "Truncate after Preamble: PHY-based Starvation Attacks on IoT Networks," ACM WiSec 2020, July 2020.

Johannes K. Becker, Stefan Gvozdenovic, Liangxiao Xin, and David Starobinski, "Testing and Fingerprinting the Physical Layer of Wireless Cards with Software-Defined Radios," Computer Communications, Vol. 160, pp. 186-196, July 2020.

John Mikulskis, Johannes K. Becker, Stefan Gvozdenovic, and David Starobinski, "Poster: Snout - An Extensible IoT Pen-Testing Tool," ACM CCS 2019, London, UK, November 2019.

Liangxiao Xin, Johannes Becker, Stefan Gvozdenovic, and David Starobinski," Benchmarking the Physical Layer of Wireless Cards using Software-Defined Radios," ACM MSWiM 2019, Miami, FL, November 2019.

M. Li, S. Gvozdenovic, A. Ryan, R. David, D.R. Brown III, and A.G. Klein. A Real-Time Implementation of Precise Timestamp-Free Network Synchronization. Proceedings of the 49th Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, November 8-11, 2015.

Neamtu, Rodica, Ramoza Ahsan, Jeff Stokes, Armend Hoxha, Jialiang Bao, Stefan Gvozdenovic, Ted Meyer et al. "Taming Big Data: Integrating diverse public data sources for economic competitiveness analytics." In Proceedings of the First International Workshop on Bringing the Value of Big Data to Users (Data4U 2014), p. 25. ACM, 2014.

AWARDS

Charles O. Thompson award, WPI *2013*
Dean's list, WPI *2012*
First Place in Republic Competition in Physics, Bosnia and Herzegovina *2007/2008*