
PROFESSIONAL EXPERIENCE

- **Wittra Networks** Stockholm, Sweden
Senior Hardware and Software Engineer *Mar. 2022 - Present*
 - **Hardware and Software Engineer:** Wittra provides sensor data combined with indoor and outdoor positioning provides a unique set of features for asset monitoring applications. Thanks to Wittra's high precision positioning algorithms enables users to connect, sense and locate their assets in the toughest environments such as heavy industrial sites and areas of weak connectivity. Currently, I am working as senior hardware and software engineer.
- **Volumental** Stockholm, Sweden
Senior Hardware and Software Engineer *Dec. 2018 - Feb. 2022*
 - **Hardware and Software Engineer:** Volumental has commitment to research and advancing the footwear industry with the latest artificial intelligence methods and fitting science. Vandra, Volumental's Foot Scanner, is the industry lead product that gives best fit and recommendations. Currently, many footwear brands such as Adidas, New Balance, Bauer, Fleet Feet, Road Runner, TAF, ECCO etc. are using Volumental foot scanner both in their stores and R&D facilities to design their best running shoes. I worked as senior hardware and software engineer at Volumental.
- **Yubico** Stockholm, Sweden
Senior Hardware and Software Engineer *Dec. 2013 - Dec. 2018*
 - **YubiKey:** YubiKey is a small device supporting multiple authentication and cryptographic protocols. With a simple touch, it protects access to computers, networks, and online services for the world's largest organizations. During my time at Yubico, I designed and developed next version of YubiKey for 4 different transport layers (Bluetooth Low Energy, USB, NFC and Apple Lightning). I also developed hardware devices for testing and production, demo and mobile applications for iOS and Android.
 - **FIDO Alliance:** The FIDO (Fast IDentity Online) Alliance is a non-profit organization nominally formed in July 2012 to address the lack of interoperability among strong authentication devices as well as the problems users face with creating and remembering multiple usernames and passwords. I worked as FIDO Alliance member and one of the co-authors of FIDO U2F Bluetooth Low Energy Spec. Yubico is one of the core members of FIDO organisation with other thought leaders such as Google, Microsoft, Paypal, Facebook and others.
 - **Google Security Keys:** Developed Bluetooth and Lightning Security Key for all Google Employees. All Google Employees use this device daily basis to authenticate internal Google services.
- **Microsoft** Seattle, WA, USA
Research *June 2013 - Dec. 2013*
 - **Haptics technologies:** During my mission at Microsoft, we designed and developed the first haptic screen that gives user different touch feeling for 10 touch points on the device screen.
- **Swedish Institute of Computer Science** Stockholm, Sweden
Mobile Life Centre, Platform Designer *Jan. 2012 - June 2013*
 - **Earl:** Designed low power wireless sensor and actuator platform for early sketching and prototyping in human interactive projects.
 - **Ericsson:** Designed a web platform for Ericsson that improves resource management at Ericsson.
 - **ABB:** Designed various devices for ABB to increase team collaboration in control rooms
- **Turkish Institute of Science** Ankara, Turkey
Space Technologies *June 2009 - Sep. 2009*
 - **Voice Detection with Machine Learning:** Developed software that detects gender and age with high precision with speech record.
- **Aselsan** Ankara, Turkey
Communication Systems Department *June 2008 - July 2008*
 - **Intern:** Designed, analyzed and tested touch screen panel by using a microcontroller which can connect to a network server, worked on the design of an FPGA for test systems.

EDUCATION

- **KTH Royal Institute of Technology** Stockholm, Sweden
M.S. in System-on-Chip Design in Information and Communication Technology *Aug. 2010 – Nov. 2013*
[View Master's Thesis](#)
- **Bilkent University** Ankara, Turkey
B.S. in Electronics Engineering *Sep. 2005 – June. 2010*

SIDE PROJECTS

- **Tunnel:** Tunnel enables linux operated devices to be able to reached via SSH even tough remote linux device is behind a router or a firewall.
- **Secrets:** GPG supported password manager powered with YubiKey.
- **Portal:** Hardware Secure Module (HSM) backed PHP based secure web application for team and personal notes, calendar, secure messaging, and password manager application <https://portal.dnz.me>
- **Artur:** Web-Based Secure Home Automation System. All radio devices operates on 433.92 MHz and every device on the network communicates with secure messaging. <https://artur.dnz.me>
- **Kulunc:** Personal Cloud System. I host and run my own e-mail, ownCloud, VPN, and personal application servers.

PROGRAMMING SKILLS

- **Host Application:** C, C++, Java, .NET
- **Web Applications:** Go, Python, PHP, JavaScript, React, SQL
- **Mobile SDK Languages:** Objective-C and Java
- **Embedded Systems Languages:** ANSI C, VHDL
- **Commonly Used Tools:** Git, IAR, Xilinx ISE, Eagle
- **Cloud Providers:** Google Cloud, Microsoft Azure, AWS, Hetzner
- **Build Pipelines:** Gitlab, Github, Google Cloud Build, Jenkins, Yocto
- **Architectural Styles:** REST, gRPC

PERSONAL

- **Languages:** English, Swedish, Turkish