

SUMMARY

Through the years, I have acquired a great deal of knowledge of research and developing algorithms in digital and analog signal processing with a detailed architectures schemes including system simulation, design, and implementation.

I innovated **complex best in class** DSP and ML algorithms for digital communication systems (single carrier and OFDM MU/SU MIMO) and high-resolution **autonomous mmWave imaging radar** systems. I have a strong background in digital communication and localization research and **optimization for calibration problems** including "hands on" lab work optimization, in Wireless and Wireline systems.

EDUCATION

M.Sc. Electrical Engineering – Tel Aviv University, Tel Aviv, Israel

Major Field: Digital Signal Processing and Communication

Graduated December 1999, graduated with "**cum laude**" wrote thesis in a **direct path (average 98)** and total average of **93**.

B.Sc. Electrical Engineering – Tel Aviv University, Tel Aviv, Israel

Major Fields: Digital Signal Processing, Communication and Optical Communication

Graduated June 1998, graduated with "**summa cum laude**" with total average of **94.5**.

PUBLICATIONS

1. Thesis in T.A.U, 1999, "Carrier Phase Tracking in the Presence of Multipath and Non-Constant Envelope Modulation".
2. Video channel estimation for DVB H.US20080192843-A1
3. Carrier recovery in re-modulation in **mmWave wideband** communication systems.US08406709

EXPERIENCE

Elbit Systems 2020-Current

An **imaging radar tech lead** for high resolution terrain and obstacles mapping and classification in a **Degraded Visual Environment**. Lead complex spatial **signal processing** and **ML** algorithms for detection and classification fused with camera and detailed mapping.

Arbe Robotics 2018-2020

A **senior researcher of mmWave high-resolution imaging MIMO radar** in CTO team developing state-of-the-art sensor using **Massive Beamforming signal processing** and **ML** algorithms for ranging/localization and **optimization** solutions of an automotive FMCW Radar.

General Motors (Research Group) 2016-2017

A **senior researcher and algorithms developer for mmWave MIMO super resolution imaging radar and smart antennas communication automotive system**. It includes state of the art virtual MIMO phased array related processing, ToF methods like

A senior PHY architect working on **WIFI 802.11AX (5G) MU/SU MIMO beam forming** including state of the art research and architecture of both RX and TX chains.

A **senior PHY system architect** for analog and mixed-signal sections of **SERDES (802.3.kr, 10/25/50/100GBps Ethernet links)** communication systems including ADCs, clock recovery loop (CDR), DFEs and **novel MLSE** research. Design dynamic testability algorithms set of tools in **Python** and Matlab. I have collaborated with circuit and RTL designers, customers, signal integrity, partners, package developers and process/design kit developers.

GONET Systems

2013-2014

A **chief system and algorithm engineer** developing a wide band **WIFI (802.11b/n/ac) beam forming switching** algorithm that improved reception and capacity using a unique state of the art tracking of transmission DOAs and **positioning**. The work includes **theoretical research** and developing **polarization MIMO channel models** and simulations with "hands on" integration in an RF lab environment and **system performance estimation**.

BROADCOM

2010-2013

A **senior algorithm and system engineer** in a team developing baseband chip for **wireless mmWave backhaul transceiver**. The main algorithms are a new carrier recovery DPLL for high **phase noises** and **frequency dependent I/Q corrections** schemes for wideband systems. The algorithms are state of the art and include simulations in Matlab and C++.

MARVELL

2008-2010

A **FW-DSP developer of algorithms** of PHY in DL LTE. I have specialized in DSP implementation and developing of **Initial Synchronization of LTE (4G) modem** and other DL schemes working closely with R&D team. Implementation of floating- and fixed-point simulation that run in C++ on UNIX platform.

SIANO

2004 – 2007

A **senior PHY Architect** engineer, developer and designer of **Mobile digital TV** systems using DVB T/H and ISDBT standards.

Intelligence Unit (Israel Defense Force)

1999-2004

A **senior DSP algorithm engineer** and **communication researcher** in a special electronic warfare department.

Research and implementation of DSP algorithms for demodulation of a variety of signals transmission in special severe conditions.

Tel-Aviv University

1998-1999

- Working in the university with a scholarship in the Electric System Department.
- Researcher and developing of algorithms to solve a thesis problem at equalization and synchronization at high phase noise and sever channels.

- Exerciser of courses for B.SC Electrical engineering students.



Motorola Communications

1998

An algorithm Developer with Programming C and assembler on Motorola microprocessor as a **part time** job as part of DSP team for the TETRA radio.

COMPUTER SKILLS

Program Languages: Python, MATLAB, C, C++ working in PC and UNIX platform

Management Tools: MS Word, MS Excel, MS PowerPoint, LATEX

LANGUAGE SKILLS

Fluent in Hebrew and English