Maor Assayag

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Seeking a senior DSP & AI research role to drive innovation and create positive societal impact.

EDUCATION

University of Haifa
Israel

Master of Science in Marine Technologies
2023-2025

- Subjects in the field of DSP and ML/DL.
- Can we talk with "aliens"? Thesis research on predictive models (`LSTMs`, `GMM-HMM`, `Transformers`) uncovering symmetric temporal dependencies in sperm whale communication structure, as part of the international CETI initiative (publication forthcoming).

Ben-Gurion University
Israel

Bachelor of Science in Computer Engineering
2015-2019

EXPERIENCE

R&D Team Lead
May 2020 – Present

Israeli Navy R&D Center

- Conducting research, design, architecture, development, evaluation, integration, and maturation of communication systems, leading teams of 15-20 programmers, engineers and QA.
- My passion is to create. Dedicating years to 17-hour workdays, writing ∼45k LOC per year.
- Brought novel ideas from initial conception through R&D phases to successful deployment in new operational combat systems.
- Designed and developed features and bug fixes of 35+ core microservices built from scratch using `RESTful API`, `Websocket`, `Kotlin`, `Java`, `Python`, `Golang`, `C#`, `C++`, `NodeJS`, `Angular`, `JavaScript`, `TypeScript`, `CSS-HTML`, `RabbitMQ`, `Socket.IO`, `Prometheus-Grafana` and `MongoDB`.
- Leading research and algorithm development in DSP projects, including underwater acoustic signature classification using cyclostationary features and RF communication system detection and decoding through spectrum analysis and advanced entropy theory in challenging environments (low SNR, Doppler effects, etc.).
- Designed and implemented custom communication protocols, including encoding, compression, parsing, fragmentation and encryption over various RF bands/Satellite.
- Engineered a robust orchestration solution for real-time operational combat environments, enabling features like auto/data recovery and seamless deployment across diverse hardware. Key technologies included `Nomad` for automation, `Consul/Fabio` for service management, and `Vault` for secure secret handling.
- Managed a full CI/CD process using `Git`, `Jfrog Artifactory`, `Azure DevOps`, and `Docker`.
- Driving team members to push boundaries and expand their knowledge, passionate about fostering open communication and excellence. **Making the impossible feasible** was our focus, not just a slogan.
- Interviewed 300+ young talents for unit enrollment (often exclusively), covering roles including engineers, data scientists, and QA.

UI/UX Director
Oct 2020 – Present

Israeli Navy R&D Center

- Leading UI/UX design for operational and experimental communication combat systems, standardizing design patterns and components across teams and accelerating development velocity.

Full-Stack Engineer
Oct 2019 – May 2020

Israeli Navy R&D Center

OPEN-SOURCE PROJECTS

transmit-OFDM | *Python*
2024

- Orthogonal Frequency Division Multiplexing, ready to be transmitted with an acoustic modem.

morse-deep-learning | *Python*
2024

- Detection and decoding of Morse code signals using deep learning models (`LSTM-RNN` & `RCNN`).

ngx-beautify-cursor | *Angular*
2022

- Open-source Angular package to enhance and customize website cursors.

chartjs-plugin-cyclic-axis | *JavaScript, Chart.js*
2021

- Open-source Chart.js plugin for cyclic pan functionality in scatter charts.

Community

Counselor   Jan 2022 – Present

Israeli Navy R&D Center

- Led efforts to integrate diverse populations, including young talent on the spectrum (*"Specials in Uniform"*) and Orthodox programmers (*"Vertex"*), into the technological unit.

Math Teacher   Oct 2016 – Oct 2019

Nachshon Program

- Taught and developed personalized mathematics lessons to foster student achievement.

Personal Mentor   Sep 2015 – Sep 2016

Perach - Tutorial Project

- Mentored students to improve academic performance and build confidence.

HONORS & AWARDS

University of Haifa *Master's Outstanding Excellence Award*	2025
IDF Chief of the General Staff *Excellence Technological Award - first in Navy history*	2023
Israeli Navy Commander in Chief *Award for Creativity, Innovation and Excellence*	2022
Israeli Navy R&D Brigade *Excellence Award*	2022
Israeli Navy Control Unit Commander *Special Contribution Commendation*	2022
Israeli Navy Computer and Software Development Center *Excellence Award*	2021

TECHNICAL SKILLS

Languages: Hebrew (native), English (professional working proficiency)

Keywords: Distributed Networking, Cryptography, Encoding, Compression, UI & UX, Microservices, Orchestration, Digital Signal Processing, Digital Modulation, Deep learning, Machine learning