

Assaf Ben-Kish - Curriculum Vitae

<https://assafbk.github.io/website> | assafbk@gmail.com | +972(0)-549982536

Education

2022 - Present: M.Sc. in Electrical Engineering, Tel-Aviv University, Israel

- Specializing in Reinforcement Learning and Multi-Modal Learning
- Current GPA: **99.25**

2018 - 2022: B.Sc. in Electrical Engineering and Computer Science, Technion, Israel

- Specialized in Machine Learning and Signal Processing
- Final GPA: **91.3 - Cum Laude**
- Included in the **President's honor list** for spring 2020 and 3 times in the Dean's honor list

Publications

- **MOCHA: Multi-Objective Reinforcement Mitigating Caption Hallucinations**

Assaf Ben-Kish, Moran Yanuka, Morris Alper, Raja Giryes, Hadar Averbuch-Elor. Under review. [link](#)

A method for hallucination reduction in Vision-Language Models. We apply the PPO (Proximal Policy Optimization) Reinforcement Learning algorithm to jointly optimize for caption fidelity and semantic adequacy.

- **Constant Beamwidth LCMV Beamformer**

Ariel Frank, *Assaf Ben-Kish, Israel Cohen.* EUSIPCO 2022. [link](#)

Finding a design for a Constant Beamwidth LCMV Beamformer which is simple, computationally efficient and that has significant sidelobe attenuation.

Research Projects

- **Implementing and Improving the DDPG-MP algorithm** - final projects in Deep Reinforcement Learning, [CRML](#) laboratory, Technion
 - Project A: Evaluating the algorithm in a semi-dynamical environment - Requires understanding of complicated Deep RL models (based on [DDPG](#) and [DDPG-MP](#) papers) and Robotic Manipulation.
 - Project B: Improving the algorithm using Model-Based methods and Ensemble methods.
 - Programming in Pytorch and Pybullet, applied on a robotic arm simulator (Franka-Panda and WidowX in Pybullet)
- **Smart Signs** - Hackathon [T-hack Technion], "smart cities" challenge
 - Invent, design and assemble a "smart road sign" prototype. The technology is based on controlled light polarization technology [link to the demo](#)

Experience

- **2021-2023 - Algorithms Engineer at Vayyar**
Development of Methods for Antenna Array Calibration
 - Model-Based Trace Calibration and Model-Free Online Trace Calibration
 - Statistical Methods for Leakage Removal
 - Created and Taught Vayyar's Array Calibration Course
- **2020 - 'Signals and Systems' Course Tutor at the Technion**
- **2017 and summer of 2018 - Software Developer at [Insoundz LTD](#)**
- **2014-2017 - Member of a leading R&D team at Unit 81 - The Technological Unit of the Intelligence Branch, IDF**
 - Specialized in R&D in the field of digital communication and reverse engineering
 - Awarded outstanding employee of the Electrical Engineering Department (out of 1000 employees)

Programming and Software knowledge: Python, Matlab, C, C++, Linux and open-source software, such as: Pytorch, Docker, Pybullet, FFMPEG, etc.

Community Involvement

- Mentor in a "Big Brother" program for new EE students at the Technion - 2018, 2019, 2020
- Youth Movement Supervisor + Tutor of a child from a low socio-economic background - 2013
- Year of Service - The Jewish Agency, Greater New-Haven, CT, USA - 2012-2013

Languages: Hebrew, English - native tongue level