PERSONAL INFORMATION

Omri J. Sharon

Tnuat Ha'Meri 6, Qiryat Ono, 5528603, Israel

+972.50.7416679

omrijsharon@gmail.com

Sex Male | Date of birth 09/12/1984 | Nationality Israeli

Github: https://github.com/omrijsharon

LinkedIn profile in the QR

WORK EXPERIENCE

2020 - Present

Deep Reinforcement learning engineer

Axon-Vision.

Most contributed projects:

- Built infrastructure for distributed multi-agent reinforcement learning (RL) training (relies on Ray's RLlib): tested successfully on OpenAI's "Hide and Seek" modified environment.
- Designed Unreal Engine 4 (UE4) environments for the agents to train in (Drones/Vehicles/Characters) using an in-company upgraded Airsim plugin for UE4.
- Conducted an indoor Drone vs. Human RL training using vision only (with bounding box) and an outdoor off-road self-driving SUV RL training using vision + IMU.
- Created an environment/resource manager using RPC.
- Scenario simulator for enquiring hard-to-get datasets for the object detection training.

2011- 2017

Laboratory Instructor

Physics department, Bar-Ilan University, Ramat Gan, Israel

- Optics course for physics bachelor students.
- General physics laboratories course for physics bachelor students.

2014- 2017

MATLAB teaching assistant

Physics department, Bar-Ilan University, Ramat Gan, Israel

- MATLAB course for physics bachelor students.

EDUCATION

2019 - Present

Self-Learning

- Reinforcement Learning (RL)
- Unreal Engine 4 (UE4)
- Python
- Pytorch

2013 – 2018

Ph.D.

Physics department, **Bar-Ilan University**, Ramat Gan, Israel

Thesis title:
“ Quantum Effects in Superconducting Nano-Loops and Networks”.

- Field: Solid state physics – Superconductors and nanotechnology.
- Theoretical work of a superconducting networks.
- Designing and fabricating nano-electric circuits.
- Programming a measurement system.
- Signal processing.

2011- 2013

M.Sc.

Physics department, **Bar-Ilan University**, Ramat Gan, Israel

Thesis title:
“Magnetoresistance oscillations in current-carrying high-T_c superconducting nano networks”.

2007 - 2011

B.Sc.

Physics department, **Bar-Ilan University**, Ramat Gan, Israel
Majored in physics.

PERSONAL SKILLS

Relevant skills

- Pytorch, deep learning, Reinforcement learning.
- Programming in **Python** and MATLAB: **Physics simulations**, Signal processing, Image processing, Parallel computing (on CPU and GPU), Data analysis.
- **Arduino**: Designing and building electric circuits, soldering, sensors, motors, RF/LoRa communication.
- Building and flying **racing drones**.
- Fast Learner, autodidact.

Computer skills

- Adobe: Photoshop, Lightroom, Illustrator, After Effects, Premiere.
- Autodesk AutoCAD, Microsoft Office.

RESEARCH EXPERIENCE

2011 - 2018

Research student

Experience with:

- CRESTEC e-beam lithography system.
- High Resolution SEM.
- ICP/RIE.
- Designing and fabricating superconducting nano structures and characterize their magneto-transport properties.
- Transport measurements using Physical Property Measurement System (PPMS).
- Magnetic measurements using Magnetic Property Measurement System (MPMS).
- Collaborating on measurements at ultra-low temperatures with Prof. Scheer's group at Konstanz, Germany.
- Experiencing mainly with Keithley instruments yet use to programming any instrument that has a GPIB/Serial connection.

2013 - 2014

Researcher at Universität Konstanz, Germany

Trained and worked on:

- Zeiss Cross-Beam S.E.M.
- Electron-beam evaporator.
- Oxford Inductively Coupled Plasma (ICP) Etching machine.
- Oxford Helium 3 Refrigerator without 1K pot - ^{3}He refrigerator.