




# Shivprasad Ganesh Shivratri

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## Education

### Department of Computer Science, Tufts University

Boston, USA

PHD IN COMPUTER SCIENCE

Jan. 2025 - Present

### Department of Electrical Engineering - Systems, Tel Aviv University

Tel Aviv, Israel

M.SC. IN ELECTRICAL AND ELECTRONIC ENGINEERING, **CGPA: 88.5/100**

Oct. 2017 - Jun. 2021

**Thesis title:** “Advances in analysis and control of synchronverter”

### School of Electrical Engineering, Tel Aviv University

Tel Aviv, Israel

B.SC. IN ELECTRICAL AND ELECTRONIC ENGINEERING, **CGPA: 91.6/100**

Oct. 2014 - Aug. 2018

Graduated with “**Magna Cum Laude**”

## Research Publications

- Zeev Kustanovich, **Shivprasad Shivratri**, Hang Yin, Florian Reissner, George Weiss, “Synchronverters with fast current loops”, IEEE Transactions on Industrial Electronics 70(11), 2022. [[IEEE Xplore](#)]
- Zeev Kustanovich, Florian Reissner, **Shivprasad Shivratri**, George Weiss, “The sensitivity of grid-connected synchronverters with respect to measurement errors”, IEEE Access 9, 2021. [[IEEE Access](#)]
- Pietro Lorenzetti, Zeev Kustanovich, **Shivprasad Shivratri**, George Weiss, “The equilibrium points and stability of grid-connected synchronverters”, IEEE Transactions on Power Systems 37(2), 2021. [[IEEE Xplore](#)]
- **Shivprasad Shivratri**, Zeev Kustanovich, George Weiss, Benny Shani, “Virtual synchronous machines with fast current loop”, IFAC-PapersOnLine 53(2), 2020. [[IFAC-PapersOnLine](#)]

## Research Experience

### GOLD Lab, Computer Science Department, Tufts University

Boston, USA

GRADUATE RESEARCH ASSISTANT

Jan. 2025 - Present

Mentor: Assistant Professor **Reuth Mirsky**

Project: **Reinforcement Learning for Human-Robot Interaction in Rehabilitation**

- Developed Reach Ninja Game in **Python**, enabling multiple test scenarios to train a Reinforcement Learning Agent to play the game built with **PyTorch** framework and **Deep Q-Learning** algorithm.
- Optimized the training of a Reinforcement Learning agent for the base version of the game, achieving **1.5x** the accuracy and **2x** score of a human player.

### Department of Electrical Engineering - Systems, Tel Aviv University

Tel Aviv, Israel

RESEARCHER (ON-SITE)

Oct. 2018 - May 2021

Mentor: Professor **George Weiss**

- Designed a novel **Synchronverter** algorithm for inverters to emulate the behavior of synchronous generators, enhancing power balance and system stability in microgrids.

- Achieved a **6x** reduction in frequency and voltage deviations from nominal values which improved the grid performance significantly.

## Physical Electronics Laboratory, Tel Aviv University

Tel Aviv, Israel

RESEARCH INTERN (ON-SITE)

Jun. 2016 - Aug. 2016

Mentor: Professor **Yosi Shacham-Diamand**

- Designed and fabricated a **biosensor** using sputtering gold and photolithography technique in clean room for drought detection in plants.
- Achieved the size reduction of the biosensor by **1x** and cost reduction by **3x**.

## Personal Projects

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### • **Snake AI**, *Reinforcement Learning*

Developed a classic Snake game in **Python** and trained a Reinforcement Learning Agent to play the game using **PyTorch** framework and **Deep Q-Learning** algorithm.

### • **Object Detection and Classification**, *Computer Vision*

Trained a neural network using **TensorFlow** to detect and classify buses in images with accuracy of **93%**.

### • **Panorama Creation**, *Computer Vision*

Created a panoramic image by stitching together two images that had few common points of interest.

### • **Android Application Development**, *HTSE 2020*

Developed an informative mobile application for International conference on Materials Technology using **Android Studio** and **Kotlin SDK**.

## Work Experience

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### Meivia Global Services

India

ASSOCIATE CONSULTANT (HYBRID)

Apr. 2024 - Oct. 2024

- Conducted comprehensive market research for international clients, identifying potential customer and market opportunities for the investments.
- Drafted an entrepreneurship book based on the interviews of Indian businessmen.

### KLA+

India

APPLICATION ENGINEER (ON-SITE)

Sep. 2023 - Feb. 2024

- Provided inspection solutions by investigating semiconductor manufacturing yield issues and created product use-cases for the engineering, marketing, and sales teams.

### KLA+

Israel

SYSTEM ENGINEER (ON-SITE)

May 2022 - Apr. 2023

- Collaborated with Software, Hardware and Electronics teams to write system level requirements for integrating a new focus laser and adding 3 motors to the Optical head of the inspection tool.
- Investigated focus sensor repeatability and optimized system requirements to mitigate the issue.
- Wrote diagnostics and calibrations for fast focus mechanism in the inspection tool.

## Control Laboratory, Tel Aviv University

TEACHING ASSISTANT (ON-SITE)

Tel Aviv, Israel

Feb. 2020 - June 2021

- Supervised the Control Lab course consisting of 60 students per semester.

## Achievements

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- Recognized as a **Dean's List Student** for Outstanding Academic Achievements in academic year 2014-2015 and 2015-2016, awarded to the top **5%** of the class at Tel Aviv University.
- Awarded Full Tuition Scholarship of **USD 60,000** by TATA Trust & Israeli Government from 2014-2018.
- Achieved a strong final score in the **Google Hash Code 2020** competition.
- Award for securing **3rd position** in the Merit List of the SSC Board Examination.
- Ranked **1st** in school for a Scholarship Examination conducted by the Government of Maharashtra.
- Received **Grade B** in Elementary and Intermediate Drawing Examinations.

## Relevant Coursework

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- Reinforcement Learning by David Silver | Google Deepmind
- Introduction to Computer Science (CS50) by David Malan | Harvard University
- Machine Learning Specialization by Andrew Ng | Stanford University & DeepLearning.AI

## Social Impact

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- **Tel Aviv University** | Organizer | Organized and facilitated lab visits for students
- **Tel Aviv University** | Personal Tutor | Volunteered to teach 12 students in need
- **'A Refresh'** | Running Community Manager | Organized Group Runs, Workout sessions & Events
- **'This weekend?'** | Trek Organizer | Organized and led more than 30 treks and still counting...