

# Sharva Gogawale

Contact: (+972) 58-628-3207 | Email: [sharvag@mail.tau.ac.il](mailto:sharvag@mail.tau.ac.il) | [Website](#) | [LinkedIn](#)

## EDUCATION

### Tel Aviv University

**Master of Science** in Electrical and Computer Engineering (GPA:4.0/4.0)

Selected Coursework: Deep Learning, Computer Vision, Deep Learning for Medical Imaging, Optimization, Optimal Control

**Bachelor of Science** in Electrical and Electronics Engineering (GPA:3.5/4.0)

Selected Coursework: Data Structures & Algorithms, Digital Signal Processing, Random Signals & Noise

Tel Aviv, Israel

December 2025

July 2022

## PUBLICATIONS

[J: Journal, C: Conference, P: Poster]

[C4] Carmel Kronfeld, **Sharva Gogawale**, Ofer Weintraub, Tetsuro Kobayashi, Irad Ben Gal. *A Multi-Stage Agentic Framework for Effective Counter-Narrative Generation and Refinement*. (Under Revision in ACL ARR October 2025).

[C3] **Sharva Gogawale** et al. *Classifying Medieval Manuscripts by Pen and Support*. Sixth Conference on Computational Humanities Research (CHR 2025). [[Paper](#)]

[C2] **Sharva Gogawale**, Madhura Deshpande, Parteek Kumar, Irad Ben-Gal. *Real-Time Attentiveness Detection and Adaptive Feedback in Online Learning Using Facial Expression Recognition and LLMs*. 17th International Conference on Knowledge Discovery and Information Retrieval (Accepted to KDIR 2025). [[Paper](#)]

[J2] **Sharva Gogawale**, Madhura Deshpande, Parteek Kumar, Irad Ben-Gal. *Learner Attentiveness and Engagement Analysis in Online Education Using Computer Vision*. (Under Minor Revision in Multimedia Tools and Applications 2025). [[Paper](#)]

[J1] **Sharva Gogawale**, Berat Kurar-Barakat, Daria Vasyutinsky Shapira, Nachum Dershowitz. *LayNet: End-to-End Layout Classification for Enhancing Image Preparation in Historical Documents*. *magazén*: (International Journal for Digital and Public Humanities, 2024). [[Paper](#)]

[C1] Berat Kurar-Barakat, Daria Vasyutinsky Shapira, **Sharva Gogawale**, Nachum Dershowitz. *Computational Paleography of Medieval Hebrew Scripts*. Computational Humanities Research (CHR 2024), Aarhus, Denmark. [[Paper](#)]

[P3] Daria Vasyutinsky Shapira, Berat Kurar-Barakat, **Sharva Gogawale**, Mohammad Suliman, Nachum Dershowitz. *MiDRASH – A Project for Computational Analysis of Medieval Hebrew Manuscripts*. Eurographics Workshop on Graphics and Cultural Heritage (GCH 2024). [[Poster](#)]

[P2] Daria Vasyutinsky Shapira, Berat Kurar-Barakat, Mohammad Suliman, **Sharva Gogawale**, Nachum Dershowitz. *Clustering Ashkenazi Manuscripts*. (Digital Humanities Conference 2024), Washington, D.C. [[Poster](#)]

[P1] **Sharva Gogawale**, Berat Kurar-Barakat, Mohammad Suliman, Daria Vasyutinsky Shapira, Nachum Dershowitz. *Transcending Traditional Paleography Through Computational Analysis*. (IDSAI 2024 – 3rd Annual Conference).

## EXPERIENCE

### Tel Aviv University (in collaboration with Waseda University & [XPOZ.AI](#))

Remote

**Graduate Researcher** | Advised by Prof. Irad Ben-Gal and Prof. Tetsuro Kobayashi

April 2025 - Present

- Designing a hybrid human-AI agent framework for automated detection, classification, and targeted mitigation of coordinated misinformation campaigns in online social networks.
- Implementing and refining LLM-based counter-narrative generation agents, optimizing them via empirically validated rhetorical strategies, and evaluating their effectiveness through adversarial multi-agent simulations, demonstrating that refined CNs outperformed a vanilla LLM baseline by an average of 29%.

### European Research Council (ERC) Synergy MiDRASH

Tel Aviv, Israel

**AI Researcher** | Advised by Prof. Nachum Dershowitz

September 2023 - Present

- Contributing to a project funded by the ERC for €10 million, in collaboration with leading institutions, including TAU, EPHE-PSL, Bar-Ilan University, and the National Library of Israel, to *digitize and analyze Medieval manuscripts*.
- Developed advanced algorithms for handwriting recognition, page segmentation, and intertextual analysis using advanced computational tools to convert manuscript images into searchable, analyzable digital text.
- Investigating English-to-Hebrew translation to decouple grammatical gender constraints from social bias in morphologically rich languages; Analyzing how language models assign gender, distinguishing between syntactic necessity and stereotype-driven skew in the output projection subspace.

### TAD: Center for Data Science & Artificial Intelligence

Tel Aviv, Israel

**Graduate Research Assistant**

October 2022 - March 2023

- Devised a proof-of-concept algorithm for judicial authorship identification by preprocessing U.S. Supreme Court opinions and leveraging a BERT-based model, reaching 76% accuracy and securing the prestigious TAD 2023 Research Grant(\$30K).

## TAU-Google AI for Social Good

Tel Aviv, Israel

Graduate Researcher | Advised by Prof. Nachum Dershowitz

August 2021 - October 2022

- Worked on enhancing segmentation methods for color & infrared images of [Dead Sea Scroll](#) fragments, improving baseline results for challenging fragment cases; integrated outputs into the [IAA](#)'s public archive.
- Built a semi-automatic segmentation tool and contributed to fragment matching and registration pipelines, enabling precise cross-referencing of historical images and improving accessibility for scholarly research and digital preservation.

## LAMBDA: Laboratory for AI, ML, Business & Data Analytics, TAU

Tel Aviv, Israel

Research Assistant

August 2021 - October 2022

- Engineered a computer-vision-based system for real-time emotion detection and analysis of user engagement in E-learning.
- Developed advanced state-of-the-art hybrid models for quantifying learners' affective states and a novel mathematical formulation for quantifying learners' attentiveness.
- Deployed a neural network-based web API for real-time engagement analysis, enabling seamless integration of emotion detection into e-learning platforms.

## Onshape (PTC Inc.)

Pune, India

Software Engineering Intern

August 2020 - October 2020

- Designed, implemented, and deployed scalable backend features for CAD software; delivered a new client-specific module and built ETL workflows with Apache Airflow to support data processing.

## ACADEMIC PROJECTS

---

### Graduate Thesis, Tel-Aviv University

#### Intelligent Engagement Monitoring in Virtual Classrooms using Computer Vision and LLMs

Supervisors: Prof. Irad Ben-Gal & Prof. Parteek Bhatia

- Automated real-time assessment of E-learners' attentiveness and cognitive states by experimenting with deep learning networks such as VGGs, ResNets, and EfficientNets; optimized with focal loss for imbalanced data, achieving 80.32% engagement accuracy and surpassing state-of-the-art baselines.
- Leveraged advanced LLMs to contextualize lecture content and analytics and extended the system for effective recommendations to all target audiences.
- Extended work through a multimodal framework integrating EEG signals coupled with Grad-CAM & SHAP to enhance the model's interpretability.

### Undergraduate Thesis, Tel Aviv University

#### Advanced Segmentation and Word Spotting for Historical Document Recognition

Supervisors: Prof. Lior Wolf & Prof. Nachum Dershowitz

- Developed a novel top-line computation algorithm and multi-stage data-processing pipeline to repolygonize Hebrew script text regions and generate accurate, word-level bounding boxes, overcoming limitations of baseline-dependent OCR tools.
- Prepared a dataset for training a fully convolutional neural network for word segmentation and word spotting, achieving an F1 score of 94.7% at a strict IoU threshold of 0.9, significantly boosting model performance.

## TEACHING & MENTORSHIP EXPERIENCE

---

**Head Teaching Assistant, 'Summer Course on Explainable-AI':** Led instruction and mentorship for 300+ participants from underrepresented STEM communities, delivering a rigorous XAI curriculum in a collaboration between LAMBDA and Women in AI (W-AI), Israel.

**AI Research Mentor, 'Postgraduate Institute of Medical Education and Research (PGIMER) & Thapar Institute':** Mentoring a team developing AI-powered, non-invasive cardiac assessment tools for underdeveloped regions in India; guiding the engineering of text-conditioned SAM segmentation, diffusion-based 3D reconstruction, and LLM-driven diagnostic pipelines for full-text radiology reports generation.

## ACHIEVEMENTS & HONORS

---

- **First Place:** Spring 2022 International Startup Hackathon, organized by Collier School of Management & Rutgers University, New Jersey – Initiated an EdTech Startup.
- **Semifinalist:** Annual Startup Competition 2022, TAU - Recognized as Top 10 Tech Track Startups in Israel out of 116 participating ventures.
- **Full M.Sc. Merit Scholarship:** Awarded by the School of Electrical Engineering at Tel Aviv University.
- **Full B.Sc. Scholarship** - Awarded by Tel Aviv University for all four years of undergraduate studies.

## SKILLS

---

**Programming Languages:** Python, MATLAB, C, R, C++, Java, JavaScript, HTML, CSS

**Machine Learning:** PyTorch, Keras, TensorFlow, CUDA, Explainable AI Frameworks, NumPy, Scikit-Learn, Pandas, OpenCV

**Development/Tools:** React JS, Flask, Apache Airflow, Git, Docker, AWS, Anaconda, Linux, MacOS, Windows