DIVYA SRINIVASAN

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Education

New York University, *New York -* Master of Science in Computer Science (Part Time)   *Expected May 2026*
Shiv Nadar University (SSN), *India -* Bachelor of Engineering in Computer Science   *Graduated May 2024*
University of Catania, *Italy -* **Thesis Work**

Experience

Research Assistant - Master's Thesis   *May 2025 – Present*

NYU Department of Psychology | Supervisor: Prof. Todd Gureckis, Computation and Cognition Lab

Title: *How does the timing and quantity of testimony affect its integration with direct experience?*
- Study how humans integrate social and experiential information in decision-making. Design multi-armed bandit tasks using Bayesian reinforcement learning and behavioral data, highlighting **belief anchoring** and **social influence**.
- Test effects of timing and conflict in testimony by manipulating when and how much linguistic testimony is presented during learning. Identify conditions where social input overrides direct experience, informing models of dynamic belief updating.

Research Assistant   *May 2025 – Present*
NYU Tandon School of Engineering | Advisor: Prof. Maurizio Porfiri
- Designed and implemented an interactive urban simulation in **Unity** that portrayed how visually impaired individuals navigate public spaces alongside **AI-controlled agents**, incorporating principles akin to model evaluation and human feedback training.
- The system combines pathfinding algorithms, behavior trees, and physics-based interactions to simulate real-world challenges. These include pedestrian movement, obstacle navigation, and accessibility concerns specific to visually impaired individuals.

Research & Projects

AutoCure - AI Powered HealthCare Workflow Optimizer   *Jun 2025*
- Developed an AI-powered medical workflow optimizer integrating patient triage, chest X-ray disease classification using a **Vision Transformer** (ViT) model, and treatment plan suggestions via **FHIR APIs**.
- Achieved accurate multi-label classification across 15 chest disease classes, implementing custom training with class balancing, cosine annealing learning rate scheduling, and FastAPI deployment for real-time inference.

LunchBot – AI-Powered Discord Restaurant Assistant   *Jun 2025*
- Built a real-time ML-driven assistant with GPT-3.5-turbo structured menu parsing, Playwright scraping, and SerpAPI-based geospatial search, modeling a multimodal perception pipeline.
- Implemented fuzzy matching (RapidFuzz) and asynchronous backend in discord for low latency order management, mirroring scalable, event-driven system design.

Bachelor's Thesis   *Jan 2023 – May 2023*

University of Catania (Spain) | Supervisor: Prof. Joannes Same Mertens

Title: *Vehicular Driving Style Profiling Using Deep Learning Methodologies*
- Designed deep learning pipelines using **CNN and LSTM autoencoders** to capture temporal driving patterns and behavioral signatures from raw sensor data, enabling robust profiling of individual drivers across identical driving conditions
- Collected 80K–100K+ OBD time-stamped records across 10 vehicles on Catania-Syracuse highways, achieving a 7.5% improvement in reconstruction loss using CNN autoencoders (0.197 vs 0.213 LSTM) for comparative driver analysis.

Research Project, CLEF initiative labs   *Aug 2022 – Nov 2022*

Medical Dialogue Summarization using Linear Support Vector Systems, SSN (Chennai)
- Built a text classification model using Linear Support Vector Classification with TF-IDF features to categorize 1200 doctor-patient snippets into relevant medical section headers. Earned a top-10 placement in the ImageCLEFmed MEDIQA-Sum 2023 challenge.
- Addressed class imbalance through random oversampling and text preprocessing techniques including stopword removal and lemmatization. Also explored alternate models like CART with logistic regression and CNN for comparative analysis.

Publications

Krishnan, D., **Srinivasan, D.**, Balasubramanian, V., Prabagarane, N., Mertens, J. S., Cafiso, S. D., Galluccio, L., Morabito, G., & Pappalardo, G. (2024). *Driving style profiling using deep auto-encoders for safety applications in urban and highway scenarios*. IEEE International Symposium on Measurements & Networking (M&N). https://doi.org/10.1109/MN60932.2024.10615387

Krishnan, D., **Srinivasan, D**., & Srinivasan, K. (2023). *SSNdhanyadivyakavitha at MEDIQA-Sum 2023: Medical dialogue summarization using linear support vector classification technique*. Working Notes of the Conference and Labs of the Evaluation Forum (CLEF 2023), Paper 127. https://ceur-ws.org/Vol-3497/paper-127.pdf

Technical Skills

Programming Languages : Python, C++, R, SQL, MATLAB, HTML/CSS

Libraries & Frameworks: TensorFlow, Keras, SciPy, Pandas, Scikit-Learn, Flask, PyTorch, Langchain, Matplotlib, Streamlit

Software: Apache Spark, AWS, CUDA, Google Cloud Platform