

ILEANA RUGINA

950 E 3rd St, Los Angeles, CA, 90013 | (617)655 4815 | irugina.github.io | ileana.rugina.2@gmail.com

EDUCATION

Massachusetts Institute of Technology, Cambridge MA

MEng. in EECS (5.0/5.0 GPA) , B.S. in EECS and Physics

Sep. 2015 - May 2021

Selected CS coursework: Algorithms, Machine Learning, Optimization for ML; Bayesian Modeling, Meta-Learning, Statistics Computation & Applications; Computer Systems, Software Construction.

WORK AND RESEARCH EXPERIENCE

Machine Learning Software Engineer at Gridspace

Los Angeles, CA

Sep. 2021 - Present

- modeling and distributed systems for NLP, anomaly detection, webdev

MEng Research Assistant at MIT Soljačić Lab

Jul. 2019 - Jun. 2021

- Designed a data-informed task-agnostic attention pruning method for transformer models. Evaluated performance on various models (autoregressive, autoencoder, or seq-to-seq transformers). Used sparse GPU kernels to lower memory footprint by 30% and increase inference speed by 10%.
- Defined a few-shot multi-task image translation benchmark on a large-scale meteorological dataset. Improved performance of GANs using meta-learning algorithms and contrastive pretraining.
- References: Professor Marin Soljačić (MIT), Dr. Preslav Nakov (QCRI).

Research Intern at Celixir

Stratford-upon-Avon, UK

Jun. 2018 - Aug. 2018

- Cell image analysis (segmentation, feature extraction); feature importance to select relevant assays
- Collaborated with biologists to incorporate expert priors in Bayesian models using a web based GUI.

Research Intern at Shell Technology Centre Bangalore

Bangalore, India

Jun. 2017 - Aug. 2017

- Skeletonized 3D voxel grids using either their distance transforms or thinning algorithms.
- Implemented and evaluated heuristics for graph search algorithms to speed up numerical simulations.

TEACHING EXPERIENCE

MIT 6.004 Computation Structures Teaching Assistant

Sep. 2019 - Dec. 2019

- Computer architecture introductory class. Assignments include writing assembly and HDL code.
- Held recitations and office hours to assist with lecture material and coding assignments.

CLASS/PERSONAL PROJECTS

- Java Programming: networked multiplayer Pinball game.
- ML Theory: Last Iterate Convergence of EG Methods for Variationally Coherent Min-Max Problems.

ACADEMIC ACHIEVEMENTS

Workshop Papers:

- Meta-Learning and Self-Supervised Pretraining for Storm Event Imagery Translation ICLR
- Adapting Deep Learning Models to New Meteorological Contexts Using Transfer Learning IEEE

Preprint: Data-Informed Global Sparseness in Attention Mechanisms for Deep Neural Networks

Silver Medal - Asian Physics Olympiad; **Bronze Medal** - International Physics Olympiad 2015

SKILLS AND INTERESTS

- Python: sklearn, pymc, pytorch, asyncio, tornado, Django
 - familiar with Go, C, Java, JS and React, scss, SQL, redis, docker, k8s, GCP, bash
- Academic Interests:** Few-Shot and Self-Supervised Learning, NLP, Optimization, HPC.