

Efstathia Soufleri

765.586.5434 | esoufler@purdue.edu | <https://efstathia-soufleri.github.io/>
<https://www.linkedin.com/in/efstathia-soufleri/>

EDUCATION

- | | | |
|-------------------|---|---------------------|
| 08/2017 - Present | Purdue University
Ph.D. in Electrical and Computer Engineering
Research Topic: Efficient and Privacy Preserving Machine Learning Algorithms
GPA: 3.8/4 | West Lafayette, USA |
| 03/2016 - 07/2017 | University of Thessaly
Master in Computer Science
Research Topic: Efficient Algorithms for Video Compression
GPA: 9.72/10 | Lamia, Greece |
| 10/2012 - 02/2016 | National and Kapodistrian University of Athens
Bachelor in Applied Mathematics
GPA: 7.42/10 | Athens, Greece |

RESEARCH EXPERIENCE

- **Purdue University**
Advisor: Prof. Kaushik Roy 08/2017 - Present
 - Graduate Research Assistant at **Center for Brain-inspired Computing (C-BRIC)**, Purdue University which is one of the six centers of JUMP funded by SRC.
 - My research focus is on **Action Recognition on Compressed Videos, Privacy Preserving Machine Learning, and Neural Network Compression for Computer Vision Applications**.
 - Conducted research on Differentially Private Image Synthesis utilizing discriminative models, achieving up to a 20% improvement in classification accuracy compared to Generative Adversarial Network based methods.
 - Designed a Pytorch framework for deep neural network compression to automatically determine the optimal quantization bit-width across convolutional neural network layers reducing network size by up to 6x.
 - Implemented a framework for progressive knowledge distillation for action recognition tasks on compressed videos using early exits, improving accuracy up to 5.87%.
- **University of Thessaly**
Advisors: Prof. George Stamoulis, Prof. Athanasios Loukopoulos 03/2016 - 07/2017
 - Graduate Research Assistant at the Department of Computer Science.
 - Researched and developed a heuristic algorithm for partitioning a matrix using tiles for video compression (Master Thesis).

RESEARCH PUBLICATIONS

- **Efstathia Soufleri**, Deepak Ravikumar, and Kaushik Roy. "Progressive Knowledge Distillation for Enhanced Efficiency and Accuracy for Compressed Video Action Recognition", (under review IJCAI).

- Deepak Ravikumar, **Efstathia Soufleri**, and Kaushik Roy. “Unveiling Privacy, Memorization, and Input Curvature Links”, (under review ICML).
- **Efstathia Soufleri**, Deepak Ravikumar, and Kaushik Roy. “DP-ImgSyn: Dataset Alignment for Obfuscated, Differentially Private Image Synthesis”, (under review TMLR).
- Adarsh Kosta, **Efstathia Soufleri**, Indranil Chakraborty, Amogh Agrawal, Aayush Ankit, and Kaushik Roy. “HyperX: A Hybrid RRAM-SRAM partitioned system for error recovery in memristive Xbars”, DATE (2022).
- **Efstathia Soufleri**, and Kaushik Roy, “Network compression via mixed precision quantization using a multi-layer perceptron for the bit-width allocation”, Journal of IEEE Access, Volume 9, Sept 2021.
- Priyadarshini Panda, **Efstathia Soufleri** and Kaushik Roy, “Evaluating the Stability of Recurrent Neural Models during Training with Eigenvalue Spectra Analysis”, IJCNN (2019).
- **Efstathia Soufleri**, “Video coding algorithm and optimization techniques”, Master’s Thesis (2017).

TECHNICAL STRENGTHS

- **Programming Skills: Strengths:** Python, Pytorch **Familiar:** C, C++, MATLAB, Keras, Tensorflow, Verilog, Shell Script (Bash Linux).
- **Key Skills:** Research, Design, Prototyping, Problem Solving, Debugging (pdb - Python Debugger), VS Code, Version Control (git).
- **Spoken Languages:** English (Full Professional Proficiency), Greek (Native), French (Professional Working Proficiency).

RELEVANT COURSEWORK

- **Machine Learning courses:** Deep Learning, Introduction to Neural Networks, Statistical Machine Learning, Introduction to Artificial Intelligence.
- **Computer Science courses:** Data Structures, Randomized Algorithms.
- **Math courses:** Random Variables and Probability, Linear Algebra and Applications, Convex and Stochastic Optimization and Applications.

ACADEMIC ACHIEVEMENTS

- Gerondelis Foundation Award for **Academic Excellence** in 2021.
- Master’s degree with **distinction**, achieved top of class and honored as **valedictorian** in 2017.
- Awarded the prestigious “**Academic Excellence Scholarship**” by the Greek State Scholarships Foundation in 2012.