Efstathia Soufleri

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Objective

I focus on deep learning, specifically on neural network compression, privacy preserving machine learning and video classification. I am looking to secure a full-time job starting December 2023.

Education

PhD, ECE, Purdue University
Aug '17 – Dec '23 (Expected)
Advisor: Prof. Kaushik Roy

MS, Computer Science, University of Thessaly
March '16 – July '17 | 9.72 / 10.0
Advisors: Prof. George Stamoulis, Prof. Loukopoulos Athanasios
Top of Class, Valedictorian

BE, Department of Mathematics, National and Kapodistrian University of Athens
Oct '12 – Feb '16 | 7.42 / 10.0

Relevant Coursework
• Deep Learning • Introduction to Neural Nets • Random Variables (Probability) • Machine Learning • Statistical Machine Learning • Data Structures and Algorithms

Programming

Strengths
• Python • Pytorch • Debugging • VS Code • Version control (git) • pdb (Python debugging)

Familiar
• C • C++ • MATLAB • Verilog • Shell Script (bash) • Linux

Key Skills

Research, Design, Prototyping, Debugging and Problem Solving

Experience

Purdue University
Research Assistant at *Center for Brain-Inspired Computing*
Aug 2017 – Present, West Lafayette, IN

- Developed a Pytorch framework for deep neural network compression which automatically determines the optimal quantization bit-width across the layers of a convolutional neural network reducing size by up to 6x.
- Researched and developed a new differential privacy preserving machine learning technique using image synthesis to handle distribution misalignments.
- Developed a hybrid RRAM-SRAM system with a team of researchers. This system reduced energy demands while maintaining accuracy for deep models, paving the way for new energy-efficient hardware for deep vision and machine learning applications.

University of Thessaly
Research Assistant, *Department of Computer Science*
March 2016 – July 2017, Greece

- Researched and developed a heuristic algorithm for partitioning a matrix using tiles for video encoding. (Master Thesis).

Publications

- Synthetic Dataset Generation for Privacy-Preserving Machine Learning (work in progress to be submitted).
- HyperX: A Hybrid RRAM-SRAM partitioned system for error recovery in Memristive Xbars, DATE 2022.
- Network Compression via Mixed Precision Quantization using a Multi-Layer Perceptron for the Bit-width Allocation. IEEE ACCESS 2021.
- Evaluating the Stability of Recurrent Neural Models during Training with Eigen Value Spectra Analysis. IJCNN 2019.
- Video Coding Algorithm and Optimization Techniques, Master's Thesis 2017.

Awards and Achievements

• 2021 Gerondelis Foundation Award for academic excellence.
• 2017 Masters, Top of Class, Valedictorian.
• 2012 Academic Excellence Scholarship (rank 4th) awarded by the Greek State Scholarships Foundation to study at the Mathematics Department of the University of Athens.

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