Nikola Janjušević

Brooklyn, NY ◇ npj226@nyu.edu ◇ https://nikopj.github.io

Education

New York University, Tandon School of Engineering, Brooklyn, NY
Ph.D Candidate in Electrical and Computer Engineering, GPA: 3.9/4.0 2019-Present
Advisor: Professor Yao Wang, NYU Video Lab, NYU Wireless Lab
Telephonics Corporation Research Fellowship 2020
K-12 STEM Fellowship 2019

The Cooper Union for the Advancement of Science and Art, New York, NY
Bachelor of Engineering, Electrical Engineering, Magna Cum Laude 2015-2019
Minor in Computer Science
Half-Tuition Scholarship, Innovator's Merit Scholarship 2015-2019
Radio Club of America Scholarship Award 2019

Research Experience

Deep Convolutional Dictionary-Learning, *NYU* Fall 2019-Present
- Exploring interpretable architectures for sparse-representation and image-restoration
- Presented at NYU Wireless Industrial Affiliates Board Meeting (April 2020)
- Project progress and poster available at `https://nikopj.github.io/posts/dcdl`

Deep Graph Convolutional Network, *NYU* Fall 2020-Present
- Extending *Graph Convolutional Denoising Network* to general linear inverse problems
- Implemented low-rank *Edge Conditioned Convolutions* for dynamic graph filtering
- Exploring alternate architectures based on unrolled-optimization algorithms

Adaptive Denoising via Learned Thresholding, *NYU* Spring 2020
- Introduced wavelet threshold-prediction deep-network for use in iterative sparse-pursuit
- Formulated tree-structured UNet architecture for multi-resolution input/output data
- Implemented and outperformed classical statistical-modeling techniques

Graph Representation of Fonts for Deep-Learning, *The Cooper Union* Fall 2018
- Explored strategies for glyph classification with Deep-Learning
- Developed novel technique of glyph representation by embedded graph adjacency matrices
- Improved glyph classification accuracy over raster representation

Teaching Experience

Senior Instructor and Curriculum Designer Summer 2019
NYU Tandon Summer STEM Program
- Led design of two-week Machine-Learning course for High School students
- Guided students from introductory Linear-Algebra to successful projects in Deep-Learning
- Lecture material and assignments available at `https://github.com/nikopj/SummerML`

Lead Teaching Assistant Summer 2016, 2017
The Cooper Union Summer STEM Program
- Led six-week Digital-Logic design course of 35 High School students
- Lectured on Digital-Logic and engineering design principles
- Supervised student's work and mentored group projects

Skills

Languages	English (Native), Mandarin (Conversational), Serbian (Conversational)
Computer Languages	`Python`, `C`, `C++`, `Bash`
Software Tools	MATLAB, PyTorch, Tensorflow, Slurm, LaTeX, Vim, Linux