

Nikola Janjušević

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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 2020-2022
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** (preprint), *NYU* Fall 2019-Present
◦ Derived natural image denoising neural net from convolutional sparse-coding algorithm
◦ Leveraged noise-adaptive thresholding to yield near-perfect generalization to unseen noise-levels
◦ Extended generalization to joint-denoising-and-demosaicing task and unsupervised learning
- Unrolled Primal-Dual Splitting for Optical-Flow Estimation**, *NYU* Fall 2021-Present
◦ Formulated neural net architecture from classical TVL1 optical-flow algorithm
◦ Embedding coarse-to-fine warping and total generalized variation based attention mechanism
◦ Exploring view extrapolation via occlusion aware in-painting
- Fast Novel View Synthesis for Video**, *Samsung Research America* Summer 2021
◦ Surveyed state-of-the-art deep-networks for single and multi-input novel view synthesis
◦ Applied frame-interpolation and in-painting based methods to view synthesis of video signals
◦ Presented literature survey and proposal network, internally
- Deep Graph Convolutional Network**, *NYU* Fall 2020
◦ Implemented *Graph Convolutional Denoising Network* in PyTorch
◦ Developed dynamic receptive field visualization tools for *Edge Conditioned Convolutions*
◦ Enabled memory aware multi-GPU training

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, MATLAB, Julia, C, C++, Bash
Software Tools	PyTorch, Tensorflow, Flux, L ^A T _E X, Vim, Linux