Stefanos Pertigkiozoglou

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Education

Ph.D. in Computer Science, University of Pennsylvania (GRASP Lab) (2019-Present)
Advisor: Kostas Daniilidis
Research Interests: Geometric Deep Learning, 3D Vision

Integrated Bachelor's and Master's in Electrical and Computer Engineering (2012-2018)
National Technical University of Athens
GPA: 9.42/10, summa cum laude, Class rank: Top 2%
Undergrad Advisor: Petros Maragos
Thesis: Detecting Adversarial Examples in Convolutional Neural Networks

Publications

Robust Point Cloud Registration via Equivariant Representations
S. Pertigkiozoglou*, E. Chatzipantazis*, K. Daniilidis, under review 2023
Proposed a novel point cloud registration method that uses equivariant representations to achieve robust point cloud alignment. The use of equivariant representations allows for a consistent registration that is independent of the initial poses of the input point clouds.

$\mathrm{SE}(3)$**-Equivariant Attention Networks for Shape Reconstruction in Function Space**
E. Chatzipantazis*, S. Pertigkiozoglou*, E. Dobribam, K. Daniilidis, ICLR 2023
Proposed an SE(3)-Equivariant Transformer network for shape reconstruction given input point cloud scans. Showed how the equivariant constraint along with the use of local shape modeling enables the model, trained on single objects, to generalize to scene reconstruction.

Learning Augmentation distributions using transform risk minimization
E. Chatzipantazis*, S. Pertigkiozoglou*, K. Daniilidis, E. Dobriban, Transactions of Machine Learning Research 2023
Proposed Transformed Risk Minimization (TRM) as an extension of the standard risk minimization. TRM allows for simultaneously learning a model and a distribution of useful training and testing augmentations that improve the overall task performance.

Detecting Adversarial examples in convolutional neural networks
S. Pertigkiozoglou, P. Maragos, arXiv 2018.
Investigated the adversarial robustness of Convolutional Neural Networks and proposed different techniques for detecting inputs that are perturbed by a set of adversarial attacks.

Experience

Graduate Research Assistant (Sep. 2019-Present)
GRASP Lab, University of Pennsylvania

Research Assistant (Sep. 2018- Aug. 2019)
CVSP Lab, National Technical University of Athens

Teaching Experience

- Teaching Assistant, CIS 580: Machine Perception (Head TA), Spring 2021
- Teaching Assistant, CIS 680: Advance Topics in Machine Perception, Fall 2020

Academic Reviewer: ICCV, CVPR, ICLR, Neurips

Technical Skills

Proficient Use: Python, PyTorch, LaTeX, Git, Linux
Basic Use: C++, TensorFlow, Blender

Honors and Awards

- **Gerondelis Foundation, Graduate School Grant**, 2023
- **Chris Papakiriakopoulos Award** for academic excellence in Mathematics during the academic year 2012-2013

* Denotes equal contribution