Evangelos Chatzipantazis

PhD Student

CONTACT INFORMATION

- **Email**: vaghat@seas.upenn.edu
- Webpage / Google Scholars / LinkedIn / Twitter / Github

RESEARCH INTERESTS

3D Computer Vision, Geometric Deep Learning, Generative AI, Embodied AI, VLA Models.

EDUCATION

University Of Pennsylvania (UPenn) **Sep 2018-**

- **PhD** in Computer and Information Science
  - **Specialization**: Computer Vision, Geometric Deep Learning, Robotics. **Advisor**: Kostas Daniilidis
- **Master of Science** in Statistics and Data Science (Wharton) **Jan 2023- May 2024**
  - **Current GPA**: 4.00/4.00
- **Master of Science** in Robotics (GRASP Laboratory) **Sep 2020- Dec 2022**
  - **GPA**: 4.00/4.00

National Technical University of Athens (NTUA), Greece **Sep 2012- Sep 2018**

- **BSc & MSc** in Electrical and Computer Engineering (5-year joint degree; 300 ECTS)
  - **GPA**: 9.58/10.0 (top 1% among graduate class of 341 students; highest honors)
  - **Thesis**: *"Spectral Graph Methods in Computer Vision" (Greek)*, **Advisor**: Petros Maragos

PUBLICATIONS

- STRiDE: State-space Riemannian Diffusion for Equivariant Planning. Evangelos Chatzipantazis*, Nishanth Rao*, Kostas Daniilidis. L4DC **2025**
- EqNIO: Subequivariant Neural Inertial Odometry. Royina Karegoudra Jayanth, Yinshuang Xu, Ziyun Wang, Evangelos Chatzipantazis, Daniel Gehrig, Kostas Daniilidis. ICLR **2025**
- (**Oral**) BiEquiFormer: Bi-Equivariant Representations for Global Point Cloud Registration. Stefanos Pertigkiozoglou*, Evangelos Chatzipantazis*, Kostas Daniilidis. NeuReps, NeurIps 2024.
- Improving Equivariant Model Training via Constraint Relaxation, Stefanos Pertigkiozoglou*, Evangelos Chatzipantazis*, Shubhendu Trivedi, Kostas Daniilidis. NeurIPS **2024**.
- Neural decoding from stereotactic EEG: accounting for electrode variability across subjects. Georgios Mentzelopoulos, Evangelos Chatzipantazis, Ashwin G Ramayya, Michelle Hedlund, Vivek Buch, Kostas Daniilidis, Konrad Kording, Flavia Vitale. NeurIPS **2024**.
- (**Best Student Paper**) Structural Risk Minimization for Learning Nonlinear Dynamics, Charis Stamouli, Evangelos Chatzipantazis, George J Pappas. ACC **2024**.
- SE(3)-Equivariant Attention Networks for Shape Reconstruction in Function Space, E.Chatzipantazis*, S.Pertigkiozoglou*, E.Dobriban, K.Daniilidis. ICLR **2023**.
- **(Outstanding Paper)** Graph Neural Networks for Multi-Robot Active Information Acquisition. M.Tzes, N.Bousias, E.Chatzipantazis, G.Pappas. ICRA **2023**.
- Learning Augmentation Distributions Using Transformed Risk Minimization, E.Chatzipantazis*, S.Pertigkiozoglou*, K.Daniilidis, E.Dobriban. TMLR **2023**.
- Unsupervised Monocular Depth and Latent Structure, K.Chaney*, B.Bucher*, E.Chatzipantazis, J.Shi, K.Daniilidis. CVPR Workshop on 3D Scene Understanding for Vision, and Robotics **2019**.

RESEARCH EXPERIENCE

- **NVIDIA PhD Researcher** **Jun 2025-**
  - Building a foundation model for 3d point clouds.
  - *Supervisor*: Laura Leal-Taixe
- **(Boston Dynamics) AI Institute Research Intern** **Jun 2024- Dec 2024**
  - Designed policy learning algorithms for robotic manipulation that leverage vision foundation models on the perception side and diffusion models on the policy side for fast and robust policies.
  - *Supervisor*: Robert Platt, Robin Walters.
- **UPenn, GRASP Lab, Graduate Research Assistant** **Sep 2018-**
  - Conceptualized and implemented large-scale learning algorithms leveraging geometric inductive biases across 3d perception, motion planning, state estimation and control.
  - *Supervisor*: Kostas Daniilidis
- **National Technical University of Athens**, **Sep 2017- Sep 2018**

Undergraduate Research Assistant, Computer Vision and Signal Processing (CVSP) Lab.

- Scaled up spectral graph algorithms for image segmentation and extended previous methods by incorporating user-defined hard constraints.
- Supervisor: Petros Maragos

HONORS& AWARDS

- **Best Student Paper Award** ACC 2024.
  Paper: Structural Risk Minimization for Learning Nonlinear Dynamics
- **Outstanding Paper Award in Multi-Robot Systems** ICRA 2023.
  Paper: Graph Neural Networks for Multi-Robot Active Information Acquisition.
- **Gerondelis Foundation Graduate Scholarship** 2022.
  Awarded for academic excellence to support Ph.D. Studies.
- **Thomaideion Award** 2016, 2018.
  Awarded for highest grade among all students of Electrical and Computer Engineering in academic years 2015-2016 and 2017-2018.
- **Kritikos Award** 2017.
  Awarded for highest grade in all courses of Mathematics among fellow students for the academic year 2016-2017.
- **Papakyriakopoulos Award** 2016.
  Awarded for highest grade in all courses of Mathematics among fellow students for years 2015-2016.
- **"The Great Moment of Education" Eurobank EFG Award** 2012.
  Ranking 1st among fellow students in high school in the National Qualification Exams, 2012.

ACADEMIC SERVICE

- **Organizer** of CVPR 2025 Workshop on *Equivariant Vision 2: From Theory to Practice* Website,
- **Organizer** of CVPR 2024 Workshop on *Equivariant Vision: From Theory to Practice* Website,
- **Organizer** of IROS 2024 Workshop on *Equivariant Robotics: The Role of Symmetry Across Perception, Estimation, and Control* Website, Recording
- **Invited Speaker** in CVPR 2024 workshop on *Equivariant Vision: From Theory to Practice*: **Tutorial**: "How to get started with equivariant deep learning" Slides, Video, Website.
- Machine Learning Conference Reviewer: ICML 2022-2024, NeurIPS 2022-2024, ICLR 2023-2024.
- Computer Vision Conference Reviewer: ICCV 2023, CVPR 2024, ICCV 2025
- Robotics Conference Reviewer: ICRA 2023.

TEACHING EXPERIENCE

- ***Teaching Assistant CIS700: Advanced Topics in Geometric Deep Learning***, Spring **2024**
  - Lectures on Equivariant Deep Learning: Harmonic networks from steerability constraints.
  - *Professor*: Kostas Daniilidis, Jean Gallier
- ***Teaching Assistant CIS680: Advanced Machine Perception***, Spring **2019**
  - MaskRCNN implementation from scratch on and curation of COCO dataset: : (,).
  - *Professor*: Jianbo Shi , Website.
- ***Teaching Assistant ESE546: Principles of Deep Learning***, Spring **2019, 2020**
  - Co-authored course material in PAC-learning (Chapter 13) and Markov Chains.
  - *Professor*: Pratik Chaudhari , Class Notes .
- ***Teaching Assistant ESE650: Learning in Robotics***, Fall **2019**
  - Designed assignment on Partially Observable Markov Decision Processes (POMDP) and developed a novel fusion of Multi State Constraint Kalman Filter with deep depth estimators .
  - *Professor*: Kostas Daniilidis

MENTORING EXPERIENCE

- **Nishanth Arun Rao** 2024 (PhD Princeton 2025).
  - Publication: STRiDE: State-space Riemannian Diffusion for Equivariant Planning.
- **Royina Jayanth** 2024 (PhD Princeton 2025).
  - Publication: EqNIO: Subequivariant neural inertial odometry,
  - Publication: Neural Inertial Odometry from Lie Events.

TECHNICAL SKILLS

- **Programming Languages**
  - Current Frequent Use: Python
  - Past Frequent Use: C, C++, Java, Prolog, SMLNJ, MATLAB, HTML5, Javascript, PHP, mySQL
- **Other Programming Skills**
  - PyTorch, Parallel & GPU Programming , Github, LaTeX, Unix Kernel programming, bash scripting

OTHER INTERESTS

Water Polo, Tennis, Guitar

REFERENCES (UPON REQUEST)

Kostas Daniilidis	Ruth Yalom Stone Professor UPenn
Edgar Dobriban	Associate Professor of Statistics and Data Science Wharton
Robin Walters	Assistant Professor, Northeastern University
Laura-Leal Taixe	Senior Research Manager at NVIDIA and Adjunct Professor at TUM.
Pratik Chaudhari	Assistant Professor UPenn