Arvi Gjoka
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Present Address
New York, NY

Education

PhD, New York University, New York, NY (Anticipated) Summer 2025
- Geometry Computing Lab, GPA 3.8
- Focus on differentiable simulation, inverse design and soft robotics
- NeurIPS reviewer (2022, 2023, 2024)
- Course Assistant for graduate Computer Graphics and Geometry Processing courses

BA, New York University, New York, NY May 2018
- Dual Degree in Physics and Computer Science, GPA 3.9
- Honors: Phi Beta Kappa, Society of Physics Students

Publications

- **Soft Pneumatic Actuator Design using Differentiable Simulation**,
  Arvi Gjoka, Espen Knoop, Moritz Bächer , and Denis Zorin, Daniele Panozzo,
  SIGGRAPH 2024
- **Differentiable solver for time-dependent deformation problems with contact**,
  Zizhou Huang, Davi Colli Tozoni, **Arvi Gjoka**, Zachary Ferguson, Teseo Schneider, Daniele Panozzo, Denis Zorin,
  ACM Transaction on Graphics, 2024
- **An Extensible Benchmark Suite for Learning to Simulate Physical Systems**,
  Karl Otness, **Arvi Gjoka**, Joan Bruna, Daniele Panozzo, Benjamin Peherstorfer, Teseo Schneider, Denis Zorin,
  NeurIPS, 2021
- **The iWildCam 2020 Competition Dataset**,
  Sara Beery, Elijah Cole, **Arvi Gjoka**,
  CVPR, 2020, Fine-Grained Visual Categorization Workshop
- **HistoryTracker: Minimizing Human Interactions in Baseball Game Annotation**,
  Jorge Piazentin Ono, **Arvi Gjoka**, Justin Salamon, Carlos A. Dietrich, Cludio T. Silva,
  CHI, 2019

Research and Work Experience

Intern, Disney, Zurich, CH Summer 2022
- Worked on finite element method based optimization for applications in soft robotics

Software Engineer, Google, New York, NY Sept 2019 - Sept 2020
- Working as an engineer in the space of Fine Grained Visual Classification within Google Research

Engineering Resident, Google, New York, NY Sept 2018 - Sept 2019
- Rotated between two teams in Google Research and Google Maps
- Worked on improving pipeline quality through feature engineering on geospatial data

Research Assistant, VIDA Lab at NYU Tandon, Brooklyn, NY Summer 2018
- Worked on a human-in-the-loop approach to generating baseball position tracking using historical data (granted patent)

Computer Vision Intern, Entrupy, New York, NY Summer 2017
- Developed classical vision and machine learning algorithms on surface textures (leather, cloth)
- Explored failure modes of vision algorithms on in house imaged surfaces of luxury goods

Computer Skills

- Proficiency in C/C++ (libigl, Eigen), Python (SciPy packages, OpenCV, Pytorch)
- Actively maintain and extend functionality in PolyFEM, a differentiable C++ finite element simulator
- Experience with ray tracing engines, geometry processing, machine learning pipelines, numerical methods for differential equations, microelectronics