Stefan Stojanov

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Professional Profile

Dedicated researcher specializing in computer vision and machine learning, focused on solving real-world challenges. Proven expertise in self-supervised learning, 3D understanding, and human-centered AI applications in industry.

Research and Work Experience

Stanford University, Postdoctoral Researcher　　　　　　　　　　　　**January 2024 - Present**

Led two research projects from concept to submission at top venues, managing teams of junior researchers.

Self-Supervised Learning to Extract Motion from Video Foundation Models
- Advanced counterfactual world foundation models from a proof of concept to state-of-the-art (200% gain)
- Developed a visual prompting technique to extract motion that outperforms point tracking baselines
- Trained large-scale video models based on vision transformers on multi-node GPUs and TPUs

Distilling Object Shape and Function Knowledge from Vision Language Models
- Developed a method for dense functional correspondence discovery across objects
- Built a pipeline leveraging VLMs and LLMs to curate, render, and label 3D object assets
- Designed synthetic and real-world benchmarks and tailored metrics for downstream robotics tasks

Meta Reality Labs, Research Scientist Intern　　　　　　　　　　　　**Summer 2021**

Improving Head-mounted Eye Tracking by Fusing 2D and 3D Signals
- Applied 3D computer vision techniques to improve eye-tracking robustness to headset slip
- Investigated neural network-based sensor fusion, resulting in publication at a premier venue

Amazon Lab 126, Applied Scientist Intern　　　　　　　　　　　　**Fall 2018, Summer 2019**

Human Action Recognition and Unsupervised 3D Human Pose Estimation
- Investigated GANs for unsupervised 3D human pose estimation, resulting in a CVPR publication
- Built a method using temporal CNNs for action recognition from 2D and 3D human pose keypoints

Georgia Institute of Technology, PhD Student Researcher　　　　　　　**Fall 2017 - December 2023**

Self-supervised and Low-Shot Object Recognition, 3D Object Shape Reconstruction
- Led extensive research projects on the effect of explicitly learning about 3D shape on object recognition
- Designed single-view 3D reconstruction methods and built pipelines for large-scale 3D data generation

Education

Georgia Institute of Technology, PhD	Computer Science - Computer Vision and Machine Learning
Bard College, B.A.	Computer Science and Mathematics - joint degree

Selected Publications

- ZeroShape: Regression-based Zero-shot Shape Reconstruction
  Huang, Z.*, **Stojanov, S.***, Thai, A., Jampani, V., & Rehg, J. M. – CVPR 2024
- Learning Dense Object Descriptors from Multiple Views for Low-shot Category Generalization
  Stojanov, S., Thai, A., Huang, Z., & Rehg, J. M. – NeurIPS 2022
- Using Shape to Categorize: Low-shot Learning with an Explicit Shape Bias
  Stojanov, S., Thai, A., & Rehg, J. M. – CVPR 2021
- Incremental Object Learning from Contiguous Views
  Stojanov, S., Mishra, S., Thai, N. A., ... & Rehg, J. M. – CVPR 2019 - **best paper finalist (top 1%)**

Skills

- **Software Engineering:** Python, MATLAB, C, C++, Blender, Unity, OpenCV, AWS, GCP, Azure, SLURM
- **Machine Learning:** PyTorch, NumPy, scikit-learn, TensorFlow, LLMs, VLMs, GPT API
- **Leadership:** Extensive mentorship experience – over 10 junior PhD, master's, and undergraduate students