Johanna Karras

johannakarras | johannakarras | johannakarras.github.io | jskarras@cs.washington.edu

Research Interest

My research interests lie in at the intersection of computer vision and art. I am currently working on generative AI for image and video synthesis at the Graphics and Imaging Lab (GRAIL) at UW.

Education

2021 - present **University of Washington** PhD Computer Science
2017 - 2021 **California Institute of Technology** B.S. Computer Science (GPA: 3.8/4.0)

Key Skills

- Computer vision, deep learning, image and video synthesis, computational photography
- Proficiency in TensorFlow, Keras, and PyTorch
- Strong programming skills in Python, C++, C, Java, and MySQL
- Fluency in English, Finnish, Spanish, French

Research Projects

Fashion Video Synthesis from Still Images Current

Advised by Prof. Ira Kemelmacher-Shlizerman (UW), Dr. Ting-Chun Wang (NVIDIA)
I am currently researching high-resolution video synthesis from one or more fashion images (humans wearing clothing). Anticipated submission to Siggraph in January, 2023.

Deep Neural Networks for Black Hole Imaging April 2020 – June 2021

Advised by Prof. Katie Bouman
I worked on deep neural network image reconstruction algorithms for black hole imaging. My project showed improvement in average mean-absolute-error when compared to a state-of-the-art regularized maximum likelihood optimization method. Ultimately, I presented extended abstract and poster at the WiCV workshop at CVPR on June 19, 2021. See the on project on Github.

Internships

Streetscope Inc. April - September, 2021

Computer Vision Intern
I researched and implemented state-of-the-art deep neural network architectures for object detection, object tracking, and video processing using Tensorflow and Python.

J.P. Morgan and Chase June - August, 2019

Software Engineering Intern
I created a new internal-facing web app using React and Java, supported with Jules and Gaia Cloud Platform Service, in order to monitor the testing and integration of internal software projects.

Microsoft June – September 2018

Software Engineering Intern
I developed two new applications for Cortana, a voice-controlled AI assistant, relating to midterm elections and real estate using machine learning, natural language processing, C, and new geospatial APIs.

Last updated: December 14, 2022