

NASA-Jet Propulsion Laboratory, Caltech  
198-120, 4800 Oak Grove Dr, Pasadena, CA 91109

<https://ggeorgak11.github.io/>  
georgios.georgakis@jpl.nasa.gov

## Education

***PhD in Computer Science*** 2013-2020

George Mason University

*Research Interests:* Computer Vision, Robotics, Machine Learning

*Thesis:* 3D Model-Assisted Learning for Object Detection and Pose Estimation [pdf]

*Advisor:* Prof. Jana Kosecka

***MSc in Computer Science*** 2013-2015

George Mason University

***Diploma in Electronic and Computer Engineering*** 2006-2012

Technical University of Crete

*Thesis:* Field Landmark Recognition and Localization for the RobotStadium

Online Soccer Competition [pdf]

*Advisor:* Associate Prof. Michail G. Lagoudakis

## Positions

***Robotics Technologist*** Jan 2023-

NASA-Jet Propulsion Laboratory

California Institute of Technology

***Postdoctoral Researcher*** Mar 2020-Jan 2023

GRASP Lab. Advised by Dr. Kostas Daniilidis

CIS Department, University of Pennsylvania

***Part-time Lecturer*** Spring 2022

ESE Department, University of Pennsylvania

***Graduate Research Assistant*** Aug 2013-Dec 2019

Computer Vision and Robotics Lab

CS Department, George Mason University

***Research Intern*** Summer 2019

United Imaging Intelligence, Cambridge MA

***Ph.D Research Intern - Vision and Deep Learning*** Summer 2017, 2018

Siemens Corporate Technology, Princeton NJ

## Papers

*Bridge Data: Boosting Generalization of Robotic Skills with Cross-Domain Datasets*

F. Ebert\*, Y. Yang\*, K. Schmeckpeper, B. Bucher, **G. Georgakis**, K. Daniilidis, C. Finn, S. Levine

Robotics: Science and Systems (RSS) 2022

*Cross-modal Map Learning for Vision and Language Navigation*

**G. Georgakis**, K. Schmeckpeper, K. Wanchoo, S. Dan, E. Mitsakaki, D. Roth, and K. Daniilidis

IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2022

*Learning to Map for Active Semantic Goal Navigation*

**G. Georgakis\***, B. Bucher\*, K. Schmeckpeper, S. Singh, K. Daniilidis  
International Conference on Learning Representations (ICLR) 2022

*Uncertainty-driven Planner for Exploration and Navigation*

**G. Georgakis**, B. Bucher, A. Arapin, K. Schmeckpeper, N. Matni, and K. Daniilidis  
International Conference on Robotics and Automation (ICRA) 2022

*Object-centric Video Prediction without Annotation*

K. Schmeckpeper\*, **G. Georgakis\***, K. Daniilidis  
International Conference on Robotics and Automation (ICRA) 2021

*Hierarchical Kinematic Human Mesh Recovery*

**G. Georgakis\***, R. Li\*, S. Karanam, T. Chen, J. Kosecka, Z. Wu  
European Conference on Computer Vision (ECCV) 2020

*Robust Multi-modal 3D Patient Body Modeling*

F. Yang, R. Li, **G. Georgakis**, S. Karanam, T. Chen, H. Ling, Z. Wu  
Medical Image Computing and Computer Assisted Interventions (MICCAI) 2020

*Learning Local RGB-to-CAD Correspondences for Object Pose Estimation*

**G. Georgakis**, S. Karanam, Z. Wu, J. Kosecka  
IEEE International Conference on Computer Vision (ICCV) 2019

*End-to-end Learning for Keypoint Detection and Descriptor for Pose Invariant 3D Matching*

**G. Georgakis**, S. Karanam, Z. Wu, J. Ernst, J. Kosecka  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2018

*Label Propagation in RGB-D Video*

Md. A. Reza, H. Zheng, **G. Georgakis**, J. Kosecka  
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2017

*Synthesizing Training Data for Object Detection in Indoor Scenes*

**G. Georgakis**, A. Mousavian, A. C. Berg, J. Kosecka  
Robotics: Science and Systems (RSS) 2017

*A Contact Exploitative Approach to the Amazon Robotics Challenge*

E. Dessalene, **G. Georgakis**, Md. A. Reza, Y. Li, Y. Ovcharik, A. Shapiro, J. Kosecka, D. Lofaro  
Warehouse Picking Automation Workshop (ICRA) 2017

*Multiview RGB-D Dataset for Object Instance Detection*

**G. Georgakis**, Md. A. Reza, A. Mousavian, P. H. Le, J. Kosecka  
International Conference on 3D Vision (3DV), 2016

*RGB-D Multiview Object Detection with Object Proposals and Shape Context*

**G. Georgakis**, Md. A. Reza, J. Kosecka  
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2016

\* Denotes equal contribution

## Preprints

*Simultaneous Mapping and Target Driven Navigation*

**G. Georgakis**, Y. Li, J. Kosecka  
arXiv:1911.07980

*Towards Robust RGB-D Human Mesh Recovery*

R. Li, C. Cai, **G. Georgakis**, S. Karanam, T. Chen, Z. Wu  
arXiv:1911.07383

## Patents Pending

*Systems and Methods for Human Pose and Mesh Recovery*

Z. Wu, S. Karanam, C. Cai, **G. Georgakis**  
US16/995,446, filed August 2020, Application no. US20210158028A1

*Systems and Methods for Human Mesh Recovery*

S. Karanam, Z. Wu, **G. Georgakis**  
US16/863,382, filed April 2020, Application no. US20210158107A1

*Learning Keypoints and Matching RGB Images to CAD Models*

**G. Georgakis**, S. Karanam, Z. Wu, J. Ernst  
PCT/US2019/053827, filed September 2019, Application no. WO2020086217

*Matching RGB Images to CAD Models*

**G. Georgakis**, S. Karanam, Z. Wu, J. Ernst  
PCT/US2019/040913, filed July 2019, Application no. WO2020014170A1

*Spare Part Identification Using a Locally Learned 3D Landmark Database*

**G. Georgakis**, S. Karanam, Z. Wu, J. Ernst  
PCT/US2018/049100, filed September 2018, Application no. WO2019094094A1

*Learning View-invariant Local Patch Representations for Pose Estimation*

**G. Georgakis**, S. Karanam, V. Manjunatha, K-C. Peng, Z. Wu, J. Ernst  
PCT/US2018/013271, filed January 2018, Application no. WO2019139587A1

*Training a Convolutional Neural Network using Task-irrelevant Data*

V. Manjunatha, **G. Georgakis**, K-C. Peng, Z. Wu, J. Ernst  
PCT/US2017/067766, filed December 2017, Application no. WO2019125453A1

## Awards

*Doctoral Consortium at ICCV 2019*

*Outstanding Graduate Teaching Assistant Award* by the Department of Computer Science,  
George Mason University, for the academic year 2015-16

## Selected Talks

*Cross-modal Map Learning for Vision and Language Navigation*

GRASP SFI Seminar Series, Philadelphia PA, April 2022

*Uncertainty-based Mapping and Navigation*

MURI Review Meeting, Virtual, October 2021

*Object-centric Video Prediction without Annotation*

Honda Curious Minded Machines Seminar Series, Virtual, January 2021

*3D Model-Assisted Learning for Object Detection and Pose Estimation*

GRASP Seminar Series, Philadelphia PA, December 2019

### ***Keypoint Learning for Pose Estimation***

Siemens CT Intern Talk Series, Princeton NJ, August 2018

### ***Synthesizing Training Data for Object Detection in Indoor Scenes***

RSS Conference Talk, Cambridge MA, July 2017

### ***RGB-D Multiview Object Detection with Object Proposals and Shape Context***

IROS Conference Talk, Daejeon, South Korea, October 2016

## **Teaching**

### ***Instructor at University of Pennsylvania***

ESE650: Learning in Robotics with Oleh Rybkin

Spring 2022

### ***Guest Lecturer at George Mason University***

CS112: Introduction to Programming - Python

Fall 2015

CS685: Autonomous Robotics

Fall 2018

CS687: Advanced Artificial Intelligence

Spring 2019

CS747: Deep Learning

Spring 2020

### ***Graduate Teaching Assistant at George Mason University***

CS112: Introduction to Programming - Python (Head TA)

Fall 2014 - Spring 2017

CS310: Data Structures - Java

Fall 2018

CS480: Introduction to Artificial Intelligence

Spring 2019

## **Mentoring & Collaborations**

### ***Master's Thesis***

Siddharth Goel, Navigation to Multiple Semantic Targets in Novel Environments, Fall 2021

Shiyani Patel, Vector Graph Neural Network: Point Cloud Prediction into the Future, Fall 2021

### ***Project Supervision***

Aditya Singh (Penn CIS MSc, Fall 2022-ongoing)

Bo Wu (Penn ROBO MSc, Summer 2022-ongoing)

Anton Arapin (Google, Summer 2021-ongoing)

Karan Wanchoo (Penn CIS MSc, Fall 2021-Fall 2022)

Yihui Mao (Penn ROBO MSc, Summer 2021-Fall 2022)

Sharon Shaji (Penn ROBO MSc, Spring 2022)

Siddharth Singh (Amazon, Fall 2020-Spring 2021)

### ***PhD Student Collaborations***

Agelos Kratimenos (Penn CIS PhD, Fall 2022-ongoing)

Katrina Ashton (Penn CIS PhD, Spring 2022-ongoing)

Evangelos Chatzipantazis (Penn CIS PhD, Spring 2022-ongoing)

Stefanos Pertigkiozoglou (Penn CIS PhD, Spring 2022-ongoing)

Ron DiTullio (Penn Neuroscience PhD, Fall 2021-ongoing)

Bernadette Bucher (Penn CIS PhD, Spring 2020-ongoing)

Karl Schmeckpeper (Penn CIS PhD, Spring 2020-ongoing)

Soham Dan (Penn CIS PhD, Fall 2021-Fall 2022)

Frederick Ebert (UC Berkeley CS PhD, Spring 2021-Summer 2021)

### ***High School Student Supervision***

Keith Cho (AEOP Apprenticeship, Summer 2021)

Andy Jiang (AEOP Apprenticeship, Summer 2021)

Hita Gupta (GRASP Intern, Fall 2021-ongoing)

## Reviewer

*Conferences:* CVPR, CVPRW, ICCV, ECCV, WACV, ACCV, ICRA

*Journals:* TPAMI, RA-L, Pattern Recognition Letters, Transactions on Image Processing,  
Signal Processing: Image Communication, IEEE Access