

# Daniel Gordon

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<https://danielgordon10.github.io/>

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## Education

### **The University of Washington**

2014 – 2020

Ph. D. in Computer Science

Advised by Dieter Fox and Ali Farhadi

### **The University of Washington**

2016

Masters in Computer Science

### **Washington University in St. Louis**

2010 – 2014

Bachelor of Science in Computer Science

Second Major in Entrepreneurship

Summa Cum Laude – GPA: 3.96, Engineering Class Rank: 8/323

Undergraduate Research Advised by Robert Pless

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## Work Experience

### **Apple Maps 3DV:**

Apr 2024 – Present

Senior Machine Learning Engineer

- Responsible for diffusion, semantic segmentation, and detection models being run on imagery at world scale
- Developed end-to-end models for predicting 3D vectorized maps from raw pixels

### **Third Wave Automation:**

Team Lead: Perception and Pallet Manipulation

Jun 2023 – Mar 2024

- Oversee a team of 5 engineers serving as both a manager and a contributor for several major projects
- Facilitated cross-team collaboration resulting in doubling the success rate of autonomous workflows

Tech Lead: Perception

Jan 2022 – Dec 2022

- Led a team of 3 engineers working on major features for the core competencies of the product
- Contributed technical design expertise throughout the code stack
- Pioneered Python type checking throughout the codebase

Independent Contributor: Perception

Jun 2020 – Dec 2021

- Designed and implemented many visual algorithms for the core product including object detection and tracking, pose estimation, local mapping and collision checking, and several safety systems

<b>Facebook AI Research (FAIR):</b>	Winter 2019
Research Intern – A-STAR Team with Dhruv Batra	
<ul style="list-style-type: none"> <li>Conducted research resulting in the ICCV publication “SplitNet: Sim2Sim and Task2Task Transfer for Embodied Visual Navigation”</li> </ul>	
<b>Allen Institute for Artificial Intelligence:</b>	Winter 2017
Research Intern – PRIOR Team with Roozbeh Mottaghi	
<ul style="list-style-type: none"> <li>Conducted research resulting in the ICCV publication “Visual Semantic Planning using Deep Successor Representations”</li> </ul>	
<b>Google:</b>	
Software Engineering Intern – Google Maps	Summer 2013,
<ul style="list-style-type: none"> <li>Designed and programmed the Street View Time Machine frontend</li> <li>Increased polish and feature improvement on the new Maps frontend</li> </ul>	Summer 2014
Engineering Practicum Intern – Google Wallet	Summer 2012
<ul style="list-style-type: none"> <li>Integrated an autocomplete feature to the Wallet website</li> <li>Added Google+ profile images and names to various Wallet pages</li> <li>Created the Wallet dashboard page and recent transaction widget</li> </ul>	

## Publications

<b>Learning by Watching and Learning by Doing</b>	2020
Ph.D. Thesis	
<b>Watching the World Go By: Representation Learning from Unlabeled Videos</b>	Arxiv 2020
Daniel Gordon, Kiana Ehsani, Dieter Fox, Ali Farhadi	
<b>What Can You Learn from Your Muscles? Learning Visual Representations from Human Interactions</b>	Arxiv 2020
Kiana Ehsani, Daniel Gordon, Thomas Nguyen, Roozbeh Mottaghi, Ali Farhadi	
<b>ALFRED: A Benchmark for Interpreting Grounded Instructions for Everyday Tasks</b>	CVPR 2020
Mohit Shridhar, Jesse Thomason, Daniel Gordon, Yonatan Bisk, Winson Han, Roozbeh Mottaghi, Luke Zettlemoyer, Dieter Fox	
<b>SplitNet: Sim2Sim and Task2Task Transfer for Embodied Visual Navigation</b>	ICCV 2019
Daniel Gordon, Abhishek Kadian, Devi Parikh, Judy Hoffman, Dhruv Batra	
<b>What Should I Do Now? Marrying Reinforcement Learning and Symbolic Planning</b>	Arxiv 2018
Daniel Gordon, Dieter Fox, Ali Farhadi	
<b>Shifting the Baseline: Single Modality Performance on Visual Navigation &amp; QA</b>	NAACL 2019
Jesse Thomason, Daniel Gordon, Yonatan Bisk	Short

<b>IQA: Visual Question Answering in Interactive Environments</b> Daniel Gordon, Aniruddha Kembhavi, Mohammad Rastegari, Joseph Redmon, Dieter Fox, Ali Farhadi Received the Nvidia Pioneering Research Award at CVPR 2018	CVPR 2018
<b>AI2-THOR: An Interactive 3D Environment for Visual AI</b> Eric Kolve, Roozbeh Mottaghi, Daniel Gordon, Winson Han, Eli VanderBilt, Luca Weihs, Alvaro Herrasti, Matt Deitke, Kiana Ehsani, Yuke Zhu, Abhinav Gupta, Ali Farhadi	Technical Report 2017
<b>Re3: Real-Time Recurrent Regression Networks for Object Tracking</b> Daniel Gordon, Ali Farhadi, Dieter Fox	RA-L 2018
<b>Visual Semantic Planning using Deep Successor Representations</b> Daniel Gordon, Yuke Zhu, Eric Kolve, Dieter Fox, Li Fei-Fei, Abhinav Gupta, Roozbeh Mottaghi, Ali Farhadi	ICCV 2017
<b>Collaborative Rephotography</b> Ruth West, Abby Halley, Daniel Gordon, Jarlath O'Neil-Dunne, Robert Pless	SIGGRAPH 2013 Studio Talks
<b>Collaborative Imaging of Urban Forest Dynamics: Augmenting Rephotography to Visualize Changes over Time</b> Ruth West, Abby Halley, Jarlath O'Neil-Dunne, Daniel Gordon, Robert Pless	IS&T/SPIE 2013

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## Service

<b>Co-organizer of 1st Workshop on Visual Understanding Across Modalities and THOR competition</b> <a href="http://vuchallenge.org/">http://vuchallenge.org/</a>	CVPR 2017
<b>Organizer of Deep Learning in Practice Seminar Talk Series</b> <a href="https://sites.google.com/cs.washington.edu/deeplearninginpractice/">https://sites.google.com/cs.washington.edu/deeplearninginpractice/</a>	Summer 2017

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## Teaching Experience

<b>Teaching Assistant at the University of Washington</b> Introduction to Deep Learning: Head TA <ul style="list-style-type: none"> <li>Wrote Numpy-based Pytorch-like library for deep learning assignments and autograder for grading</li> <li>Managed 5 other TAs and 160 students</li> </ul>	Fall 2018, Fall 2019
<b>Teaching Assistant at Washington University in St. Louis</b> Introduction to Artificial Intelligence Algorithms and Data Structures Logic and Discrete Mathematics Introduction to Computer Science	Spring 2013, Spring 2014 Fall 2013 Fall 2012 Fall 2010-Spring 2012

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## Honors and Awards

<b>NVIDIA Graduate Fellowship</b> (1 of 10 awardees from 230+ applicants)	2019
<b>National Science Foundation GRFP Honorable Mention</b> (Top 1/3 <sup>rd</sup> of applicants)	2015 and 2016
<b>Wissner-Slivka Fellowship</b> (University of Washington CSE)	2014
<b>Achievement Rewards for College Scientists Fellowship</b> (UW CSE 1 of 2 awardees)	2014-2016
<b>Outstanding Senior Award – Computer Science</b> (Washington University)	2014
<b>Sigma Xi</b> (Washington University)	Inducted Spring 2014
<b>Upsilon Pi Epsilon</b> (Washington University Top 1/3 <sup>rd</sup> of CSE Class)	Inducted Fall 2013
<b>Tau Beta Pi</b> (Washington University Top 1/8 <sup>th</sup> of Engineering Class)	Inducted Fall 2012

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## Patents

<b>Providing a thumbnail image that follows a main image</b> US Patent 9,934,222	April 3, 2018
<b>Display screen with graphical user interface or portion thereof</b> US Patent D780,795	March 14, 2017

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## Technical Skills

<b>Proficient in</b>	Python, Java, PyTorch, C++, C, TensorFlow, Caffe, Git, HTML, CSS
<b>Capable in</b>	Bazel, Matlab, Javascript, Google Closure, Android, PHP, Mercurial, C#, LaTeX
<b>Basic Knowledge</b>	CUDA, Objective-C/Cocoa, iPhone, MySQL, JQuery, Unix Terminal

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## Open Source Repositories

VINCE: <https://github.com/danielgordon10/vince>  
YouTube8M Data: <https://github.com/danielgordon10/youtube8m-data>  
Deep Learning Class Numpy Library: <https://gitlab.com/danielgordon10/dl-class-2019a>  
SplitNet: <https://github.com/facebookresearch/splitnet>  
AI-Habitat: <https://github.com/facebookresearch/habitat-api>  
AI2-THOR: <https://github.com/allenai/ai2thor>  
Re3: <https://github.com/danielgordon10/re3-tensorflow>  
Re3-Pytorch: <https://github.com/danielgordon10/re3-pytorch>  
IQA: <https://github.com/danielgordon10/thor-iqa-cvpr-2018>

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