

SAFA CICEK

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Experience

Waymo

February 2021 - Now

Staff Perception Engineer

Mountain View, California

- Designed, trained (on GPUs and TPUs), finetuned, quantized, deployed and maintained large vision models (VLM) which are multi-sensor (camera, radar, laser) and multi-task (2D/3D object detection, depth prediction, segmentation).
- Authored 408, reviewed 261 changes as of October 28, 2023.
- Mentored summer interns.
- Worked on sensor fusion and robustness.
- Implemented and maintained 3D vision libraries for camera-world projections.
- Conducted research on autoregressive probabilistic future prediction models using VQVAE, VQGAN and transformers.
- Planned and organized multi-task learning OKRs for the main perception model. Managed large-scale collaborations between perception and infrastructure organizations.

Waymo

June 2020 - September 2020

Intern

Mountain View, California

- Applied graph neural networks (GNN) to object detection tasks.

Adobe Research

June 2019 - September 2019

Intern

San Jose, California

- Applied GAN models (e.g. style GAN) to unsupervised domain adaptation tasks.

Honda Research Institute

June 2018 - September 2018

Intern

Mountain View, California

- Applied multi-agent reinforcement learning algorithms to motion planning tasks.

Education

UCLA

2015-2020

PhD in Electrical and Computer Engineering

Los Angeles, California

- In UCLA Vision Lab, under the supervision of Professor Stefano Soatto.
- Committee: Stefano Soatto, Lieven Vandenbergh, Paulo Tabuada, Guy Van den Broeck.
- Thesis: Visual Learning with Weak Supervision.

UCLA

2015-2017

MS in Electrical Engineering

Los Angeles, California

Bilkent University

2011-2015

BS in Electrical Engineering

Turkey

- Graduated within 3.5 years as a Valedictorian. 3.97 GPA out of 4.00.

Ankara Science High School

2007-2011

Turkey

Skills

Deep learning libraries: JAX, TensorFlow, Pytorch, Flax, Keras.

Programming languages: Python (**Google readability**), C++, SQL, Matlab, Java.

Developer Tools: VS Code, GitHub, Xcode.

Selected Publications

- **Safa Cicek** and Alhussein Fawzi and Stefano Soatto, Saas: Speed as a Supervisor for Semi-Supervised Learning, European Conference on Computer Vision (ECCV). 2018.
- **Safa Cicek**, Stefano Soatto, Unsupervised Domain Adaptation via Regularized Conditional Alignment, International Conference on Computer Vision (ICCV) as **oral (%4.6)**. 2019.
- Alex Wong, **Safa Cicek**, Stefano Soatto, Learning Topology from Synthetic Data for Unsupervised Depth Completion, IEEE Robotics and Automation Letters (RAL). 2021.
- Alex Wong, **Safa Cicek**, Stefano Soatto, Targeted Adversarial Perturbations for Monocular Depth Prediction, Conference on Neural Information Processing Systems (NeurIPS). 2020.
- **Safa Cicek**, Ning Xu, Zhaowen Wang, Hailin Jin, Stefano Soatto, Generative Feature Disentangling for Unsupervised Domain Adaptation. European Conference on Computer Vision Workshop (ECCVW). 2020.
- **Safa Cicek**, Ning Xu, Zhaowen Wang, Hailin Jin, Stefano Soatto, Spatial Class Distribution Shift in Unsupervised Domain Adaptation: Local Alignment Comes to Rescue. Asian Conference on Computer Vision (ACCV). 2020.
- **Safa Cicek**, Stefano Soatto, Input and Weight Space Smoothing for Semi-supervised Learning, International Conference on Computer Vision Workshop (ICCVW). 2019.
- **Safa Cicek**, Alireza Nakhaei, Stefano Soatto, MARL-PPS: Multi-agent Reinforcement Learning with Periodic Parameter Sharing, International Conference on Autonomous Agents and Multiagent Systems (AAMAS). 2019.
- Wong, Alex, et al. "Small Lesion Segmentation in Brain MRIs with Subpixel Embedding." International MICCAI Brainlesion Workshop, 2021.

Patents

- System and method for multi-agent reinforcement learning with periodic parameter sharing, 16/680,395.
- Controlled style-content image generation based on disentangling content and style, 16/802,440.
- Contrastive learning for object detection, 17/148,148.
- Trajectory Prediction From Multi-sensor Fusion. (pending)
- A question answering system deployed remotely to answer questions from the cars. (pending)
- Using artificial intelligence to detect passengers in a vehicle. (pending)

Reviewer

- Conference on Neural Information Processing Systems (NeurIPS), 2023.
- Conference on Computer Vision and Pattern Recognition (CVPR), 2021.
- European Conference on Computer Vision (ECCV), 2020.
- Neural Processing Letters (NEPL), 2019.

Awards

- Intel ISEF: Fourth Award in Mathematical Sciences, 2010
- University Entrance Exam: Ranked as 68 among 1.6 million examinees, 2011.

Graduate Courses

- Nonlinear Dynamical Systems, Channel and Source Coding, Matrix Analysis, Adaptation and Learning, Convex Optimization, Stochastic Processes in Dynamical Systems, Linear Dynamical Systems, Learning and Reasoning with Bayesian Networks, Machine Perception, Machine Learning Algorithms, Algorithms and Complexity, Advanced Numerical Analysis (on ODEs), Probability Theory (Measure Theory).