Kerem Yildirir

keyi@netlight.de ·

LinkedIn · GitHub· keremyildirir.com

Munich, Germany

EDUCATION

- **M.Sc. Informatics**
  Technical University of Munich
  Thesis Topic: Probabilistic Object Detection and Reconstruction from a single RGB-D frame
  Grade Average: 1.7
  October 2019 - September 2022, Germany

- **B.Sc. Computer Science and Engineering**
  Sabanci University
  Thesis Topic: Plant Disease Identification
  Grade Average: 1.4
  September 2015- June 2019, Turkey

EXPERIENCE

- **IT Consultant - Netlight**
  Current engagement: Machine Learning, Cloud & Software Engineering @ a global leader in medical technology.
  December 2022 - Present, Germany

- **Machine Learning Engineer - Isarsoft**
  Trained and deployed multiple object detection solutions to different infrastructures ranging from cloud to edge devices.
  October 2021 - October 2022, Germany

- **Computer Vision Engineer - Research Neutron Source FRM II**
  Developed a system for high speed image segmentation using C++ and CUDA, enabling the processing of large datasets.
  October 2020 - October 2021, Germany

- **Computer Vision Intern - WARP**
  Designed and implemented a 3D object detection, instance segmentation and tracking system on LiDAR point clouds using Python and ROS to be used in an autonomous vehicle for in-campus transportation.
  April 2020 - September 2020, Germany

LANGUAGES

- Turkish - Native
- English - C1
- German - B1

SKILLS

- C/C++, Python, CUDA, MATLAB, LaTeX
- ROS, PyTorch, Tensorflow, OpenCV, OpenMP
- Linux, CMake, Git, Docker, AWS,Azure

PROJECTS

- **Probabilistic Object Detection and Reconstruction from a single RGB-D frame**
  Developed a model for 3D object detection and semantic completion from a single depth image that is detect and provide multiple suggestions for objects.
  Python, PyTorch, MLflow

- **Monte Carlo Dropout for Object Detection on Point Clouds**
  Improved state of the art object detection performance on point clouds by leveraging uncertainty.
  Python, PyTorch

- **Indirect Visual Inertial Odometry with Optical Flow**
  Extended the classical odometry pipeline by eliminating the descriptor matching and integrating frame to frame optical flow for more robust feature tracking.
  C++, CMake, Eigen, Sophus, Ceres

- **KinectFusion**
  Implemented KinectFusion algorithm by Newcombe et al. for real-time reconstruction of real world 3D scenes from depth images.
  CUDA, C++, CMake, Eigen, Ceres

PUBLICATIONS

- F. Tasyaran, K. Yildirir, K. Kaya, and M. K. Tas, "One table to count them all: Parallel frequency estimation on single-board computers," in *Euro-Par*, 2019

- S. Atito, B. A. Yanikoglu, E. Aptoula, I. Ganiyusufoglu, A. Yildiz, K. Yildirir, B. Sevilmis, and M. U. Sen, "Plant identification with deep learning ensembles," in *CLEF*, 2018