Baris Sen

Enthusiastic learner, passionate about improving human life via machine learning, computer vision, and natural language processing

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ACADEMIC & INDUSTRY EXPERIENCE

Research Engineer Intern — *Meta Reality Labs*

Seattle, Washington, June 2022 - September 2022

- Increased the **video 3D bounding box annotation** speed by 3x through implementing a tool utilizing **extreme key points** and **multi-view geometry**
- Utilized the **OpenGL/WebGL, Open3D**, and **OpenCV** libraries in **3D vision** algorithms implementation
- The application is under review to be **open-sourced** for AR developers
- Led day-to-day work of two software engineer contractors

Research Assistant — *Niessner Visual Computing Lab, TUM*

Munich, Germany, December 2020 - June 2021

- Researched and implemented methods to **generate realistic images** from simulation images by **domain adaptation** in **self-driving perception** tasks using **generative adversarial networks (GANs)**
- Utilized **C++** and **Python** to develop scripts to generate a synthetic dataset using the **CARLA** autonomous driving simulator

Software Engineering Intern — *Amazon*

Munich, Germany, October 2019 - March 2020

- Accelerated continuous integration and continuous delivery (CI/CD) by automating **integration testing & end-to-end testing**

Junior Software Engineer — *Celonis (Process mining startup)*

Munich, Germany, October 2018 - June 2019

- Decreased the data loading/query evaluation time of the product by **25%** through efficient **data compression** in **C++** and **JIT compilation**

PROJECTS

ScanAndTell - 3D Dense Captioning — *TU Munich*

- Utilized **sparse convolutions** to improve **object detection** and scene understanding in the 3D dense **captioning** pipeline (GitHub) **Outperformed** the baseline approach in **BLEU-4, CIDER, and ROUGE**

GraphWalker — *TU Munich (B.S. Project)*

- Developed a novel method for **knowledge-graph-based question answering** using **recurrent neural networks** and **attention** (GitHub)

EDUCATION

University of California, Davis — *M.S. in Computer Science*

Davis, California, September 2021 - Present (Graduating March 2023)

Technical University of Munich — *B.S. in Computer Science*

Munich, Germany, October 2017 - August 2021

RELEVANT COURSES

- Machine Learning (ML)
- Introduction to Deep Learning
- Computer Vision (CV)
- ML for CV
- Adv. Deep Learning for CV
- Natural Language Processing
- ML for NLP Lab
- Adv. Deep Learning for Robotics
- ML for 3D Geometry
- Computer Graphics
- ML for Genomics
- Recommender Systems
- ML and Discovery

AWARDS

DAAD Scholarship for Master's Abroad, a scholarship covering the expenses of the two-year M.S. studies in the US (2021-2023)

Ranked 1st in the **Nationwide** College Entrance Exam (Turkey, 2017)

SOFTWARE ENGINEERING SKILLS

Project Management: Scrum, Jira
Version Control: Git, Bitbucket
Libraries: PyTorch, Numpy, Open3D, OpenCV
Cloud: AWS, Google Cloud
Web: React, Typescript, HTML

PROGRAMMING LANGUAGES

- **C++** - proficient
- **Python** - proficient
- **Java** - proficient
- **Javascript** - proficient
- **Swift** - intermediate
- **SQL** - intermediate
- **R** - intermediate

HOBBIES

Spending time with friends, kayaking, hiking & cycling