Anil Celik Maral

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Education

Technical University of Munich **April 2022 – March 2025**
Master of Science - MS, Informatics: Games Engineering *2.065 / 5*

University of California, Santa Cruz **June 2015 – June 2019**
Bachelor of Science - BS, Robotics Engineering *1.3 / 5*

Experience

C++ Developer **April 2024 – Present**
Dassault Systemes *Munich, Germany - Hybrid*
- Working in the 3D Operations Operators team that develops the DataPrep operations for the **3DEXPERIENCE** app.

Game Developer **May 2022 – Jan 2024**
Peanut Entertainment *Ankara, Turkey - Remote*
- Developing games using **Unity**, **Unreal Engine** and **Blender**.

Robotics Engineer **Jan 2020 – Apr 2022**
ERISIM A.S. *Ankara, Turkey - On Site*
- Drew and designed the **P & ID / flow diagrams** for **gypsum based construction material production plants** and wrote programs for the **PLC automation systems** used in these plants.

Embedded Systems Engineer Intern **Sep 2019 – Dec 2019**
Archer Components *San Francisco Bay Area - On Site*
- Developed automation solutions using **IoT** by utilizing **AWS**, **Arduino**, **ZigBee**, **C** and various other microcontrollers and programming languages.

Undergraduate Researcher **Nov 2015 - Jul 2017**
University of California, Santa Cruz *Santa Cruz, California - On Site*
- **Modeled tensegrity robots** and sketched them in **AutoCAD Inventor** and also did **stress analysis/simulation** of the tensegrity robots using **NASA Tensegrity Robotics Toolkit (NTRT)**. Afterwards, built the prototypes by **3D printing/prototyping** for testing.

Projects

Differentiable Finite Volume Method
- In my master's thesis, I worked on **computational fluid dynamics (CFD)** simulations using the **finite volume method (FVM)**. I developed and coded the **finite volume method (FVM)** solutions for Φ_{Flow}, a differentiable PDE solving framework for machine learning, and then published my results.

Chaos Coaster Video Game
- Developed an 3D FPS in **Unity**. Models were designed in **Blender**. The enemies were trained using machine learning using **Unity**'s **ML-Agent**s.

Implementation of the KinectFusion 2011 by Richard A. Newcombe et al Research Paper
- Implemented the 2011 research paper titled KinectFusion: Real-Time Dense Surface Mapping and Tracking by Richard A. Newcombe et al. using **C++**, **OpenCV** and **CUDA**. Additionally, utilized **Eigen3** and **FreeImage 3 C++** libraries.

DeepMap Autonomous Mobile Robot Project
- Coded in **C++** and **Python** to interact with maps and sensor rig, consisting of a **GPS**, a **LIDAR**, an **IMU unit** and two **stereo cameras**, to autonomously drive the robot. Additionally, integrated ROS, DeepMap's API and our code, to navigate on roads and simulate the robot in Gazebo ROS before deployment.

Skills

Unity, Unreal Engine, Blender, C++, C#, C, Python, Java, MIPS Assembly, Verilog, PLC Ladder Logic, Matlab, AutoCAD, Autodesk Inventor, SolidWorks, Robot Operating System (ROS), Gazebo ROS, OpenCV, CUDA

Languages

English: Native or Bilingual Proficiency
Turkish: Native or Bilingual Proficiency
German: Elementary proficiency

Organizations

Tau Beta Pi, The Engineering Honor Society
Member May 2018 - Present