

# ANIL CELIK MARAL

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## Education

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### Technical University of Munich

*Master of Science - MS, Informatics: Games Engineering*

**April 2022 – Present**

*2.284 / 5*

### University of California, Santa Cruz

*Bachelor of Science - BS, Robotics Engineering*

**June 2015 – June 2019**

*1.3 / 5*

## Experience

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### Game Developer

*Peanut Entertainment*

**May 2022 – Jan 2024**

*Ankara, Turkey - Remote*

- Developing games using **Unity**, **Unreal Engine** and **Blender**.

### Robotics Engineer

*ERISIM A.S.*

**Jan 2020 – Apr 2022**

*Ankara, Turkey - On Site*

- Drew and designed the **P & ID / flow diagrams** for **gypsum production**, **gypsum based dry-mix production** and **plasterboard production plants**. This process included analyzing the input material with regards to its chemical composition, keeping in mind the desires of the customer and necessities of the project.
- Wrote programs for the **PLC automation systems** used in gypsum production, gypsum based dry-mix production and plasterboard production plants.

### Embedded Systems Engineer Intern

*Archer Components*

**Sep 2019 – Dec 2019**

*San Francisco Bay Area - On Site*

- Developed automation solutions using **IoT**.
- Utilizing **AWS**, **Arduino**, **ZigBee**, **C** and various other microcontrollers and programming languages.

### Mechanical Test Engineer Intern

*ERISIM A.S.*

**Jun 2018 - Sep 2018**

*Ankara, Turkey - On Site*

- Tested various types of machinery designed by mechanical engineers using standard and nonstandard mechanical tests.
- Used data acquisition software/hardware to prepare reports of tested machinery.
- Helped in the CAD design (**SolidWorks**) and manufacturing of various test fixtures.
- Operated power and light duty machine tools.

### PLC Programmer Intern

*Epromak*

**Jun 2017 - Sep 2017**

*Ankara, Turkey - On Site*

- Wrote programs for the **PLC automation systems** used in gypsum and dry-mixing plants mostly for **SIEMENS S7-300 PLCs**.
- Tested the programs.
- Documented and organized the programs to be ready to be commissioned on site.

### Undergraduate Researcher

*University of California, Santa Cruz*

**Nov 2015 - Jul 2017**

*Santa Cruz, California - On Site*

- Worked under computer engineering professor Mircea Teodorescu and **modeled** the **tensegrity robots** and sketched them in **AutoCAD Inventor**.
- Did **stress analysis/simulation** of the tensegrity robots using **NASA Tensegrity Robotics Toolkit (NTRT)**.
- Built the prototypes of the tensegrity robots by **3D printing/prototyping** for testing purposes.

## Projects

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### The Custodian Video Game

- Developed a card based, continuous timed 2D action RPG in **Unity**.

### 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-Agents**.

### DeepMap Autonomous Mobile Robot Project

- Volunteered in DeepMap's autonomous mobile robot project.
- Coded in **C++** and **Python** to interact with DeepMap's maps and sensor rig, that consists of a **GPS**, a **LIDAR**, an **IMU unit** and two **stereo cameras**, to autonomously drive the DeepMap autonomous mobile robot.
- Integrated ROS, DeepMap's API and our own code, to have the ability to navigate on roads and simulated our robot in Gazebo ROS before deployment.
- **Designed** the robot using **SolidWorks** and doing **statics** and **kinematics** calculations.

## Skills

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**Unity:** 2 Years of Experience  
**Unreal Engine:** 2 Years of Experience  
**Blender:** 2 Years of Experience  
**C++:** 8 Years of Experience  
**C#:** 2 Years of Experience  
**C:** 9 Years of Experience  
**Python:** 9 Years of Experience  
**Java:** 9 Years of Experience  
**MIPS Assembly:** 9 Years of Experience  
**Verilog:** 8 Years of Experience  
**PLC Ladder Logic:** 8 Years of Experience  
**Matlab:** 9 Years of Experience  
**AutoCAD:** 7 Years of Experience  
**Autodesk Inventor:** 9 Years of Experience  
**SolidWorks:** 6 Years of Experience  
**Robot Operating System (ROS):** 6 Years of Experience  
**Gazebo ROS:** 6 Years of Experience  
**OpenCV:** 6 Years of Experience

## Languages

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

## Courses

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### 3D Scanning & Motion Capture

IN2354, Technical University of Munich

### 3D User Interfaces

IN2111, Technical University of Munich

### Additional Advanced Practical Course, Computer Games Laboratory

IN2257, Technical University of Munich

### Advanced Practical Course, Computer Games Laboratory

IN2106, Technical University of Munich

### Advanced Programming

CMPS 109, University of California, Santa Cruz

### Advanced Seminar Course, Master Seminar - Recent Highlights in Computer Graphics and Visualization

IN2107, Technical University of Munich

### Algorithms and Abstract Data Types

CMPS 101, University of California, Santa Cruz

### Applied Discrete Mathematics

CMPE 16, University of California, Santa Cruz

### Augmented Reality

IN2018, Technical University of Munich

### Basic Mathematical Methods for Imaging and Visualization

IN2124, Technical University of Munich

### Calculus for Science, Engineering, and Mathematics

MATH 19A, University of California, Santa Cruz

### Calculus for Science, Engineering, and Mathematics

MATH 19B, University of California, Santa Cruz

### Computer Systems and Assembly Language

CMPE 12, University of California, Santa Cruz

### Computer Systems and C Programming

CMPE 13, University of California, Santa Cruz

**Concepts of C++ Programming**

IN2377, Technical University of Munich

**Database Systems on Modern CPU Architectures**

IN2118, Technical University of Munich

**Distributed Systems**

IN2259, Technical University of Munich

**Feedback Control Systems**

CMPE 141, University of California, Santa Cruz

**Fundamentals of Robot Kinematics and Dynamics**

CMPE 10, University of California, Santa Cruz

**Game Engine Design**

IN0038, Technical University of Munich

**Game Physics**

IN0037, Technical University of Munich

**Geometry Processing**

IN2297, Technical University of Munich

**Image Synthesis**

IN2015, Technical University of Munich

**Individual Study or Research**

CMPE 198F, University of California, Santa Cruz

**Introduction to Data Structures**

CMPS 12B, University of California, Santa Cruz

**Introduction to Electronic Circuits**

EE 101, University of California, Santa Cruz

**Introduction to European Visual Culture**

HAVC 30, University of California, Santa Cruz

**Introduction to Mechatronics**

CMPE 118, University of California, Santa Cruz

**Introduction to Physics I**

PHYS 5A, University of California, Santa Cruz

**Introduction to Physics III**

PHYS 5C, University of California, Santa Cruz

**Introduction to Physics III**

PHYS 5C, University of California, Santa Cruz

**Introduction to Statics, Dynamics, and Biomechanics**

CMPE 9, University of California, Santa Cruz

**Introductory Macroeconomics: Aggregate Economic Activity**

ECON 2, University of California, Santa Cruz

**Linear Algebra**

MATH 21, University of California, Santa Cruz

**Logic Design**

CMPE 100, University of California, Santa Cruz

**Mathematical Methods for Engineers II - Differential Equations**

AMS 20, University of California, Santa Cruz

**Microprocessor System Design**

CMPE 121, University of California, Santa Cruz

**Models of Robotic Manipulation**

CMPE 215, University of California, Santa Cruz

## **Probability and Statistics for Engineers - Introduction to Probability**

CMPE 107, University of California, Santa Cruz

## **Requirements Engineering**

IN2394, Technical University of Munich

## **Robot Automation: Intelligence through Feedback Control**

CMPE 8, University of California, Santa Cruz

## **Robot Motion Planning**

IN2138, Technical University of Munich

## **Senior Design Project I**

CMPE 129A, University of California, Santa Cruz

## **Senior Design Project II**

CMPE 129B, University of California, Santa Cruz

## **Sensing and Sensor Technologies (Sensor Design)**

CMPE 167, University of California, Santa Cruz

## **Signals and Systems**

EE 103, University of California, Santa Cruz

## **Technical Writing for Computer Engineers**

CMPE 185, University of California, Santa Cruz

## **Virtual Reality**

IN5701, Technical University of Munich

## **Visual Data Analytics**

IN2026, Technical University of Munich

## **Organizations**

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### **Tau Beta Pi, The Engineering Honor Society**

*Member*

May 2018 - Present