

# Pelinsu Acar

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## EDUCATION

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### University of Bologna

*Master of Science in Artificial Intelligence; GPA: 102/110*

Bologna, Italy

2022 – 2024

### Bilkent University

*Bachelor of Science in Electrical and Electronics Engineering; GPA: 3.52/4.0*

Ankara, Turkey

2016 – 2021

## EXPERIENCE

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### CNH INDUSTRIAL BELGIUM NV

*Master's Thesis Student*

Zedelgem, Belgium

March 2024 – December 2024

- Conducted research on state-of-the-art Zero-Shot and Open-Vocabulary Object Detection models (OWLv2 and YOLO-World) using different query embedding techniques (CLIP, DINOv2) to assess kernel detection performance for real-time grain loss assessment.

### MLPS AD

*Computer Vision Intern*

Bulgaria (Remote)

August 2023 – September 2023

- Developed a license plate recognition system using OpenCV and Tesseract OCR. Enhanced car detection with SSD MobileNet, Grad-CAM, and a color detection pipeline using K-Means and RGB matching.

### NTT DATA Business Solutions

*Junior Big Data Engineer*

Istanbul, Turkey

December 2021 – August 2022

- Worked as a data engineering consultant in ZF Global's DMP project, designing data transformations with PySpark and SQL on Databricks/Synapse.
- Integrated manufacturing execution systems into a unified data model for an Angular + Power BI OEE dashboard.
- Ensured stability through CI/CD, bug fixes, and performance optimizations while implementing key data engineering principles like row-level security, multi-hop architecture, and fault-tolerant ingestion.

## SIGNIFICANT PROJECTS

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### One/Zero Shot Vehicle Detection on Satellite Images

*Machine Learning for Computer Vision Term Project*

University of Bologna

2024

- Implemented and evaluated two open-vocabulary object detection models, OWLv2 and YOLO-WORLD, for detecting vehicle classes in satellite images using both text and image queries.

### Personal Identifiable Information Detection in Student Writing

*Natural Language Processing Project Work*

University of Bologna

2024

- Developed and evaluated NER and LLM-based models for PII detection in student essays, achieving a top F5 score of 0.743 with a spaCy-based NER approach.

### Emotion Discovery and Reasoning its Flip in Conversation

*Natural Language Processing Term Project*

University of Bologna

2024

- Developed a BERT-based system to identify emotions and detect emotional shifts in conversational dialogues, leveraging specialized classification heads for trigger and emotion detection.

### Anti-Covid19 Systems

*Electrical and Electronics Engineering Design II Term Project*

Bilkent University

2021

- Developed an IoT application using Arduino UNO and Raspberry Pi4 to monitor face masks and body temperature. Implemented facial recognition with OpenCV to detect unmasked faces, displayed data on an Android app, and sent user notifications.

- Implemented a Deep Q-Network (DQN) using TensorFlow to train a Snake game agent with a reward-based state mechanism.

## LANGUAGES

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**English***Level: Advanced***Turkish***Level: Native*

## SKILLS

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**Programming Languages:** Python, Matlab, SQL, VHDL, Java**Databases:** PostgreSQL, SQL Server**Libraries & Frameworks:** NumPy, Pandas, OpenCV, NLTK, scikit-learn, HuggingFace, TensorFlow, PyTorch**Tools & Technologies:** Git, Docker, Anaconda, Azure Databricks, Azure Synapse, Simulink, Vivado

## LICENSES & CERTIFICATIONS

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- Microsoft Certified: Azure Data Fundamentals
- IELTS (Grade: 7/9)
- GRE General Test (Quantitative Reasoning: 167/170)
- Associated Board of the Royal Schools of Music (ABRSM) Certificates (Grade 5 Music Theory & Piano, passed with distinction)

## HONORS & REWARDS

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- Granted a scholarship for my master's degree at the University of Bologna by the Ministry of Foreign Affairs and International Cooperation (MAECI), 2022 – 2023.
- Bilkent University High Honor Certificates, 2016-2017 Spring, 2017-2018 Fall, 2020-2021 Fall, 2020-2021 Spring.
- Placed 2980th in the National University Entrance Exam among over 2.2 million students and granted %50 scholarship for the undergraduate program by Bilkent University, 2016.