

MUSTAFA DOGAN

🏠 | ✉️ | 🔗 | 📍 Ankara, Turkey

EDUCATION

- Hacettepe University** 2021-2024
Master's in Science in Computer Engineering | GPA: 3.64/4.0 *Ankara, Turkey*
Graduate Thesis: *Evaluating Zero-Shot Learning Capabilities of Video-Language Pretraining Models*
Contributed ViLMA benchmark to evaluate VidLMs' capabilities in processing moving images.
Adapted and tested multiple VidLMs, revealing performance similarities to static image-based models.
- Konya Food&Agriculture University** 2016-2021
Bachelor's in Science in Computer Engineering | GPA: 3.72/4.0 *Konya, Turkey*
2nd highest rank in the faculty, High Honor
Recipient of merit-based full scholarship by Dean's Office
Graduation Project: *Autonomously Navigated Agent Using Reinforcement Learning*
Developed Deep Q-Learning ML model in CARLA simulator for autonomous point-to-point navigation.

EXPERIENCE

- Aselsan** November 2021 - Present
Software Engineer *Ankara, Turkey*
- Spearheaded the development and maintenance of event-driven firing control systems deployed on VxWorks and CentOS operating systems for critical national defense systems.
 - Orchestrated communication between units using TCP/IP, RS422, Can Bus, and DDS protocols.
 - Applied C++, Java, Visual Studio, and Eclipse for development and testing.
- TUBITAK SAGE** February - July 2021
Researcher *Ankara, Turkey*
- Engineered a C# multi-threading form application leveraging N-tier Architecture, Reflection, and PlotLab libraries, enabling intuitive visualization of missile data.
 - Developed an indexer project in C# to categorize and present specific file types from designated root paths in HTML format using a tree view.
- Morten Inc.** June - September 2020
Machine Learning Engineer Intern *Istanbul, Turkey*
- Pioneered the creation of a Knowledge Graph cataloging authors and their citations from academic papers stored in a MongoDB database, devising a GPT-2-powered Python scripting.
 - Engineered a sophisticated machine learning model utilizing natural language processing to identify tasks within academic papers, facilitating comprehensive paper clustering.
- Air Electronic Warfare Systems Engineering Trading Inc.** June - September 2019
Embedded Software Eng. Intern *Ankara, Turkey*
- Crafted a Memory Map conforming to MIL-STD-1553 protocol using C and VHDL for the Electronic Warfare Suite Controller integrated into F-16 aircraft.
 - Implemented a finite state machine employing MYD-C7Z015 Development Board and LTC-2601 standards for digital-to-analog signal conversion.
- Michigan State University** August-September 2018
Laboratory Assistant Intern *MI, USA*
- Conducted analysis, utilizing Python libraries (matplotlib, Seaborn), to explore the relationship between sleeping patterns and eating habits.
 - Applied Bayes Theorem and MS Office to evaluate test results, offering insights to collaborating companies.

PUBLICATIONS

- [1] Ilker Kesen, Andrea Pedrotti, **Mustafa Dogan**, Michele Cafagna, Emre Can Acikgoz, Letitia Parcalabescu, Iacer Calixto, Anette Frank, Albert Gatt, Aykut Erdem, and Erkut Erdem. Vilma: A zero-shot benchmark for linguistic and temporal grounding in video-language models, 2023.
- [2] **Mustafa Doğan**, Ömer Metin, Elif Tek, Semih Yumuşak, and Kasım Öztoprak. Speculator and influencer evaluation in stock market by using social media. In *2020 IEEE International Conference on Big Data (Big Data)*, pages 4559–4566, 2020.

PROJECTS

Speculator Finder

- **Identified** NASDAQ market speculators and influencers by analyzing nearly *3.4 million* distinct user tweets on company-related topics.
- **Utilized** *Selenium* library to gather tweet data, user details, and engagement metrics, storing them in an *SQLite Database*.
- **Employed** *tfidf* vectorizer and machine learning algorithms, predominantly SVM, for tweet vectorization and clustering.

16-bit RISC based Processor

- **Engineered** a custom instruction format and data-path based on the *Harvard architecture*, encompassing 18 essential instructions for memory and register operations.
- **Constructed** a *user-friendly desktop simulator* using *Python* and *PyQt*, enabling users to execute programs utilizing assembly instructions while visualizing real-time memory and register values.
- **Established** a *Verilog* project within the *ISE* development environment to **verify** the design and functionality.

VOLUNTEERING ACTIVITIES

Erasmus Youth Exchange

October 2019

Participant

Perugia, Italy

- **Engaged** actively in the "Interstellar Inclusion" Youth Exchange project, fostering understanding and **combatting** *racism* and *xenophobia* through peer-to-peer experiences.
- **Collaborated** in a theater performance involving a diverse group from various countries, addressing challenges related to accessing education in different societal contexts.
- **Created** and **edited** an *award-winning* short film on the theme of Freedom, receiving the 'Best Movie' accolade among five nominated films.
- **Delivered** a presentation on migration in Turkey to 30+ youngsters from diverse backgrounds.

Erasmus Youth Exchange

May 2018

Participant

Tallinn, Estonia

- **Participated** in the "Sail Entrepreneurship" Youth Exchange project, collaborating with participants from various countries.
- **Contributed** to ideation and development of business concepts focusing on social entrepreneurship using the *Business Canvas Model*.
- **Overcame** cultural and language barriers by fostering open communication and encouragement among a group of 35+ participants.

ADDITIONAL EXPERIENCE

TOEFL iBT Score: 93/120

March 2023

KFAU Robotics Club, Member of Board

January 2019 - September 2021

IEEE KFAU Student Branch, Founding President

January 2018 - October 2019

International Youth Camp, Participant

August 2017