

Ari Nubar Boyacıoğlu

MASTER'S DEGREE GRADUATE IN COMPUTER SCIENCE WITH AI SPECIALIZATION

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Experience

Karlsruhe Institute of Technology, Institute IAR, Artificial Intelligence for Language Technologies Lab (AI4LT)

Karlsruhe, Germany

STUDENT ASSISTANT

Mar. 2023 - Aug. 2023

- Developed a streaming bot that automatically joins virtual calls and streams to the Lecture Translator system for simultaneous translation.

Karlsruhe Institute of Technology, Institute AIFB, Critical Information Infrastructures

Karlsruhe, Germany

STUDENT ASSISTANT

Nov. 2021 - Aug. 2023

- Implemented and tested modules for a blockchain-based academic document publication platform with Truffle and Ganache.
- Created a highly customizable automatic cover page generation system and integrated into the thesis submission pipeline.
- Brought automation to everyday research tasks like collecting papers via forward and backward search patterns, extracting and processing tabular information, and exporting to Excel.

Education

Karlsruhe Institute of Technology (KIT)

Karlsruhe, Germany

M.S. IN COMPUTER SCIENCE

Oct. 2020 - Nov. 2023

- Graduated with a specialization (profile) in **Artificial Intelligence**.
- Master's Thesis:** Neural Machine Translation between the Endangered Language Western Armenian and English
 - Built the first neural machine translation system for the endangered Western Armenian language (WA).
 - Collected and processed ca. 150,000 Western Armenian-English translation examples, resulting into the first parallel corpus of WA.
 - Experimented zero-shot/few-shot performance of state-of-the-art multilingual neural machine translation models on WA.
 - The work is presented at SIGUL, a workshop for under-resourced language technologies and a part of LREC-COLING 2024 conference. The paper is available in ACL and arXiv.**

Karlsruhe Institute of Technology (KIT)

Karlsruhe, Germany

B.S. IN COMPUTER SCIENCE

Oct. 2015 - Sep. 2020

- Bachelor's Thesis:** Investigating the Change of User Behavior in Smartphone Usage and Importance During Social Distancing Caused by COVID-19
 - Conducted a longitudinal study about the change in smartphone usage behavior of groups of individuals in Germany and Turkey during the COVID-19 pandemic in 2020.
 - Processed and analyzed the data with SPSS and custom automation scripts.

Personal Projects

Maintenance of Western Armenian-English Parallel Corpus + NLP for Western Armenian

- Continuous research and development for extending the parallel corpus and increasing the quality within the collected data.
- Developed a **bitext miner** for extracting WA - English non-direct parallel text.
- Implementation of a general **data scraping interface** that adapts to each resource (online/printed) and passes the collected data to the **processing pipeline**.
- Ongoing development of an **LLM** that supports various downstream NLP tasks for WA.

Automation Software for Games

- Developed a bot that automatically decides the next move based on the visual input using OCR.
- Built a Captcha solver system with two layered approach: Image Recognition Model based on YOLOv5 falling back to pixel-based inspectional algorithm.

Focus Areas

NLP • Machine Translation • LLMs • Deep Learning • Data Processing • Speech Recognition • Computer Vision • Automation

Skills

Programming Python, JavaScript, SQL, Solidity, Java, C, Haskell

Frameworks PyTorch, Fairseq, HuggingFace, Scipy, NodeJS, Truffle, Ganache, MongoDB

DevOps Docker, Git

Back-end Django, Flask, REST API

Front-end React, HTML5, SASS

Languages Armenian (Western; Native), Turkish (Native), English (C2), German (C2), Italian (A2)

Soft Skills Analytical Thinking, Deep Focus, Eager to Learn, Initiative-Taking, (Non)-Technical Communication, Public Speaking, Team Player