




# Alexandros Tsafos

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## EDUCATION

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**National Technical University of Athens**

Sep 2018 - Nov 2023

MEng in Electrical & Computer Engineering

Athens, Attiki, Greece

**GPA:** 8.10/10.00

**Relevant Coursework:** Advanced Topics in Database Systems, Analysis & Design of Information Systems, Distributed Systems, Algorithms, Neural Networks & Intelligent Systems, Forecasting Techniques

**Thesis:** Multivariate Computational Load Timeseries Prediction & Resource Provisioning with Machine Learning

**Advisor:** Prof. Dimitrios Tsoumakos

## WORKING & RESEARCH EXPERIENCE

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**Software Competitiveness International S.A.**

Apr 2022 - Present

*Junior Software Engineer (Data)*

Jan 2024 - Present

- Analysing Cloud offerings of AWS, GCP, and MS to design and implement ESA's AI-ready multi-mission archiving.
- Designed and implemented a timeseries forecasting and anomaly detection system to automate the previously manual process using **Python, Pandas, Tensorflow, Keras, and Git** on ESA's MALT-P project.
- Reporting directly to Technical Owners;** Presenting progress and discussing further steps with ESA's stakeholders of different disciplines.

*Junior Software Engineer*

Apr 2022 - Jan 2024

- Led the software team dedicated to a major Telecommunications customer, driving \$350M FY Revenue using the latest technologies of **C/C++**, **Scala**, **Bash**, **Python**, and **Git**.
- Enriched the product's functionality; designed and implemented TWAMP as a new protocol feature to measure network connections' performance.

**Information Management Unit, NTUA**

Nov 2023 - Present

*Research Assistant*

- Collaborating with a team of 8 researchers for SWARMCHESTRATE, regarding Application-level Swarm-based Orchestration Across the Cloud-to-Edge Continuum.
- Currently involved in the extension of IMU's EMS, a Complex Event Managing System, to function in Swarm Computing systems, using Java, Oasis TOSCA, Docker, and Kubernetes.

## TEACHING EXPERIENCE

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**National Technical University of Athens**

Mar 2023 - Jun 2023

*Teaching Assistant*

- Presented the 8 weekly lectures of the "Databases" SQL lab (Indexes, Constraints, Joins, Triggers, etc).
- Assisted more than 50 undergraduate students with their course projects.

## SKILLS

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**Programming Languages:** Python, C/C++, SQL, Bash, Scala

**Platforms:** Apache Spark, HDFS, Tensorflow, SKLearn, Docker, GCP

**Tools:** Git, LaTeX, Jira, Confluence

## COMPETITIONS

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**Apps4Athens Hackathon: 5th Place** | *Municipality of Athens*

Two-day Innovation Marathon focused on the digital transformation of Athens. Member of a 5-person team that proposed an Event App based on Personalized Recommendations. Designed the Recommender System and developed the Business Model. Also won a place in Crowdpolicy's 6-month Incubator targeting the launch of the MVP.

**14th National ECE Conference CODE: 1st Place** | *ECESCON*

Three-hour hackathon, consisted of five algorithmic problems of increasing difficulty. Won, passing 24/25 total test cases.

**Zero Robotics Finalists: Finals aboard the ISS** | *MIT, NASA, ESA*

Competition for High School Students. Programming (in C) SPHERES satellites for a NASA mission. Finalists (twice, as a member of Zanneio Stardust), in the live championship aboard the International Space Station.

## PROJECTS

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**LinkedIn Job Recommender** | *Python, Web Scraping, Natural Language Processing (NLP), Word2Vec*

Content-based recommender for LinkedIn Jobs, with Web Scraping and NLP. Implemented with TF-IDF weighted Word2Vec embeddings, generating job recommendations based on a candidate's description.

**Prediction of ML Operators Performance** | *Spark, Hadoop, Scala, Python, Predictive Modeling*

Generated graphs of different types and used them as input for Scala Spark's GraphX operators, to extract data about their CPU, Memory, and Time usage. Developed Deep Learning & Regression models to predict their performance.

**Neural Networks Projects** | *Python, Pandas, Natural Language Processing (NLP), Word2Vec, Tensorflow, Keras*

Multiple machine learning projects for NTUA's Neural Networks Course, including Erythremato-Squamous Diseases classification, Species classification by codon usage, Movie Recommender and Genre Clustering, and Image Captioning.

**Noobcash** | *Golang, Blockchain, Distributed Systems*

Small Blockchain project facilitating secure transactions through user wallets, deployed in the cloud.

## LANGUAGES

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**Greek** | *Native Proficiency*

**English** | *Full Professional Proficiency (C2)*

**German** | *Elementary Proficiency (A1) - Actively Learning*