Vasileios Karapatsias

Machine Learning Engineer, Data Engineer

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About

Committed to continuous learning and self-development, with nearly four years of professional experience in data, specifically as a AI and Software Engineer. Grounded in a robust educational background, delivering high-quality work and contributing to team goals. Through volunteering, cultivated diverse soft skills such as project management, teamwork, leadership, negotiation, conflict resolution, and public speaking.

Areas of Expertise

Machine Learning, AI, Data Engineering, IoT, ETL, Software Development, Databases, Smart grids & renewable energy.

Work Experience

Software Engineer, *Adaptive Sensory Technology*   **Munich, GE** *Sep 2022 - present*

- Revamped and optimized the existing codebase by implementing performance enhancements and adding new features on a high end solution that allows the ophthalmologists to assess efficiently their patients' eyesight.
- Automated device deployment and installation procedures, reducing the required time by 80%.
- Engineered and deployed a logging system in C++, accelerating issue detection and bolstering system reliability.
- Actively contributed in company's DevOps practises, by designing and deploying a series of CI/CD unit tests and leading the transition into a new release and branching strategy schema.

Related skills: Python, Shell, C++, Java, Javascript, data engineering, CI/CD, Git

Mandatory military obligations *Greek army*   *Nov 2021 - Aug 2022*

Machine Learning Engineer - Research Associate, *CERTH*   **Thessaloniki, GR** *Jan 2020 - Oct 2021*

Conducted research and provided software solutions inside the premises of green energy oriented H2020 projects. Both of them required to manage multi-dimensional data from different sources, to implement complex machine learning models, especially timeseries forecasting, and deploy them as services.

- **RENAISSANCE H2020:**
  - On a smart end-device, designed and developed a suite of modules, enabling control and management of grid's assets, optimizing the energy consumption by predicting the consumed and generated energy with over 90% accuracy. Thus, enabling Local Energy Communities' members to participate in energy exchanging marketplaces.
- **INTERPRETER H2020:** Designed and developed two high-quality, innovative tools and deployed them as services.
  - *Grid management tool* generates a digital model of a distribution network, allowing the execution of fast Unbalanced Power Flow and State Estimation (over 90% accuracy).
  - *Predictive Maintenance tool* predicts grid's maintenance needs utilizing an ensemble machine learning model and suggests optimal maintenance actions to the user in less than 6 seconds, that minimizes the required cost and unavailability periods.

Related skills: Python, C/C++, SQL, CI/CD, Git, data engineering, machine learning, research, IoT

Education

MSc Electrical & Computer Engineering *Auth*   **Thessaloniki, GR** *Sept 2013 - Nov 2019*

Specialization area of Electronic & Computer Engineering

- **Thesis:** Similarity based Multiple Kernel estimation of rice agronomic traits, using multi-spectral imagery.
- **Erasmus student:** Master of Computer Science, AGH University of Science and Technology, Krakow PL, February - June 2017
- **Volunteering:** Board of European Students of Technology, Feb 2015 - May 2020
  - President of Local BEST Group of Thessaloniki (Aug 2017 - Aug 2018)
  - Member of the Corporate Relations Team (2015 - 2020) and Information Technologies Team (2015 - 2019)
  - Main Organizer of "Career Days - Job Fair 2016 - AUTh" (over 60 companies and more than 500 attendees)

Skills

- **Programming Languages:** Python, Bash, SQL, C/C++, Java, Matlab
- **Technical skills:** Machine Learning, Deep Learning, Git/GitLab, Timeseries forecasting, REST APIs, Database management, CI/CD, Apache Kafka, AWS, Kubernetes, Docker
- **Frameworks:** Tensorflow, xgboost, Flask, Scikit-learn, Pandas, NumPy
- **Software:** PyCharm, Jupyter Notebook, Postman, PuTTY, VirtualBox
- **Soft Skills:** Adaptability, Problem-Solving, Teamwork, Communication, Planning
- **Languages:** Greek (Mother tongue), English (C2), German (B2), Chinese (HSK 2)

Certifications

- Deep Learning Specialization, *DeepLearning.AI*
- DeepLearning.AI TensorFlow Developer Specialization, *DeepLearning.AI*
- DevOps, DataOps, MLOps, *Duke University*
- ETL and Data Pipelines with Shell, Airflow and Kafka, *IBM*