

# Sissy Themeli

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Experienced Software Engineer with over 7 years of expertise specializing in the development of backend systems and APIs within the dynamic landscape of tech SaaS startups. Always eager to embrace emerging technologies and enhance my skill set, I am currently working as a Software Engineer at Unitary Ltd, an online content moderation company focusing on video understanding AI, where I lead the redesign and implementation of the product's backend to operate at scale with resilience and robustness. Prior to Unitary, my journey as a Backend Software Engineer spanned multiple startups, where I crafted web services, RESTful APIs, and dialog management systems. My diverse experience also extends to research, with roles at NCSR Demokritos focused on Argument Mining, Deep Learning and e-infrastructures. Regarding my academic background, I hold an M.Sc. in Computer Science from the University of Athens and a B.Sc. in Management Science and Technology from the Athens University of Economics and Business.

## Professional Experience

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### Unitary Ltd

Senior Software Engineer

Remote

06/2022 – today

- Spearheaded the redesign and implementation of Unitary's product architecture, elevating its robustness, reliability, and scalability. This initiative involved collaborating in a cross-functional team and implementing cutting-edge technologies to fortify the system's foundation.
- Elevated the quality assurance standards by enhancing unit and integration tests of the codebase, ensuring a rigorous and resilient testing framework. This strategic improvement ensured the reliability of our testing processes and empowered the seamless release of multiple production updates per day.
- Contributed significantly to the product's evolution through the design, planning, and implementation of various features.
- Innovated the seamless accessibility of data across different pipeline stages for the Machine Learning team. Through the design and implementation of a sophisticated software solution, facilitated streamlined collaboration and enhanced ML pipeline efficiency.

### Linked Business SA

Senior Software Engineer / Tech Lead

Athens

04/2021 – 05/2022

- As Tech Lead in the Data Matching team, led the end-to-end design, planning, and implementation of the KYC Report, a pivotal company product. This involved orchestrating backend microservices and establishing robust pipelines (e.g., CI/CD) to streamline development workflows.
- Collaborated closely with ML engineers to revamp the company name matching project, driving significant improvements in algorithmic performance. This collaboration showcased an interdisciplinary approach to optimizing and refining critical components of our technology stack.
- Implemented a transformative overhaul of the company's product infrastructure, introducing microservices, containerization, and deploying them seamlessly on Kubernetes. This initiative not only enhanced scalability but also contributed to a more agile and efficient development environment.

**NCSR Demokritos***Software & Machine Learning Engineer***Athens***09/2019 – 09/2021*

- **DARE Project:** Developed an intermediary platform bridging user applications and underlying computing resources. Leveraging Container Orchestration technologies like Kubernetes and MPI parallel processing frameworks, I orchestrated a sophisticated system offering Workflows-as-a-service. The Microservices Architecture was employed, with all components meticulously crafted in Python using Django and Flask frameworks.
- **DebateLab:** Led the development of an advanced Argument Mining system tailored for Greek news articles. Utilizing prominent ML Python libraries such as flairNLP, Hugging Face Transformers, and PyTorch, the system demonstrated a nuanced understanding of linguistic structures to extract meaningful insights.

**VoiceWeb S.A.***Software Engineer***Athens***August 2018 – August 2019*

- **Product Enhancement and Innovation:** Drove the implementation of multiple features and enhancements across the core products, namely the Dialog Manager and the NLI analytics platform. This involved a continuous commitment to refining functionalities and staying at the forefront of technological advancements.
- **Dialog Manager Redesign:** Led the comprehensive redesign and implementation of a new version of the Dialog Manager, transitioning from a monolithic application to a modularized microservices architecture. This transformation not only improved scalability but also laid the foundation for more agile development and deployment practices.
- **Rule Engine Implementation:** Revolutionized the outdated dialog rules parsing system from XML files by introducing a robust Rule Engine. Leveraging MongoDB and the Spring Framework, this overhaul significantly improved efficiency, maintenance, and adaptability in managing dialog rules.
- **RESTful API Development:** Engineered a new RESTful API to seamlessly expose essential database operations to the frontend product (NLI). This integration not only enhanced the interoperability between different components but also contributed to the overall efficiency and responsiveness of the system.

**G.N.T. Information Systems S.A.***Software Engineer***Athens***May 2016 – July 2018*

Software development on multiple projects using Java EE/Spring frameworks for back-end services (EJB3, Spring Framework, Hibernate, RESTful and SOAP web services), with test-driven approach (JUnit and integration tests). Participation in UI projects written with Vaadin and Android frameworks.

## Education

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### Academic Qualifications.....

**National and Kapodistrian University***M.Sc. "Information and Communications Technologies", 8.55/10***Athens***2016–2018*

M.Sc. Thesis: Implementation of a Hate Speech detection framework using different Machine Learning, Deep Learning and text representation approaches. Supervisors: Professor Panagiotis Stamatopoulos (UoA) & Dr. George Giannakopoulos (NCSR Demokritos)

**Athens University of Economics and Business***B.Sc. in Management Science and Technology, 7.0/10***Athens***2008–2013***Lycee Franco-Hellenique Eugene Delacroix***High-School, 18.9/20***Athens***2002–2008*

## Technical and Language skills

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### Technical skills.....

- **Programming Languages:** Python, Java, Go, R, C/C++, bash
- **Web Frameworks:** Django, FastAPI, Flask, Spring
- **Python libraries:** PyTorch, Tensorflow/Keras, scikit-learn, huggingface, flairNLP, spaCy, numpy, pandas
- **MLOps:** Airflow
- **Testing:** pytest, JUnit, Arquillian, Spring Integration Tests
- **Databases & Search Engines:** MySQL, Oracle SQL, PostgreSQL, MongoDB, Elasticsearch
- **Deployment & Cloud platforms:** Kubernetes, Docker, AWS
- **VCS & CI/CD:** Git, GitLab CI/CD, Github Actions
- **OS:** Linux, Mac, Windows
- **Other:** LaTeX, MS Office, JIRA, clickup

### Language skills.....

**Greek:** Native

**English:** IELTS, 7/9

**French:** SORBONNE II, Assez Bien

## Conferences and Seminars

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- Artificial Intelligence for Multilanguage Services for Citizens and Businesses, ELRC workshop (virtual event, 15/12/2020)
- Using text data to improve causal analyses of electronic health records (speaker: Dr. Aaron Kaufman, place: NCSR Demokritos, date: 7/11/2019)
- 20th International Conference on Computational Linguistics and Intelligent Text Processing (CICLing2019, place: LaRoche France, dates: 7-13/04/2019)
- Object-Centric Machine Learning (speaker: Leonidas Guibas, place: Department of Informatics and Telecommunications, date: 5/5/2017)
- The role of relays in the 5G systems (speaker: Vougioukas Dimosthenis, place: Department of Informatics and Telecommunications, date: 26/5/2017)

## Publications

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Iraklis A. Klampanos, Chrysoula Themeli, Alessandro Spinuso, Rosa Filgueira, Malcolm Atkinson, André Gemünd, and Vangelis Karkaletsis. Dare platform: a developer-friendly and self-optimising workflows-as-a-service framework for e-science on the cloud. *Journal of Open Source Software*, 5(54):2664, 2020.

Chrysoula Themeli, George Giannakopoulos, and Nikiforos Pittaras. A study of text representations for hate speech detection. In Alexander Gelbukh, editor, *Computational Linguistics and Intelligent Text Processing*, pages 424–437, Cham, 2023. Springer Nature Switzerland.