Romanos KAPSALIS
AI Engineer

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📍 Volos,Greece

💼 PROFESSIONAL EXPERIENCE

January 2022	**AI Engineer, CODE4THOUGHT, Patras-Greece**
	`Ethical AI` `Machine learning` `Software engineering`

April 2021	**Machine Learning Engineer Intern, INSTITUTE FOR BIO-ECONOMY AND AGRI-TECHNOLOGY (IBO),**
June 2021	**CENTRE FOR RESEARCH AND TECHNOLOGY – HELLAS (CERTH), Volos-Greece**

> Data preparation
> Data visualization with Plotly, Matplotlib and Seaborn libraries
> Applied Machine learning algorithms on various problems. More specifically, unsupervised learning (Self Organizing Maps and Gaussian Mixture Models) and supervised learning algorithms (Random Forest, SVM, Xgboost, ADA, Logistic Regression, KNN, CART).
> A deep learning model (U-Net) was built in Keras Tensorflow for a semantic image segmentation task.
> Prepared part of a technical deliverable for Task 3.5 of Kyklos 4.0 Project, which has received funding from the European Union's Horizon 2020 research and innovation program.
> Facilitated discussions with project partners and other stakeholders

`Machine Learning` `Data Engineering` `Python` `Tensorflow`

🎓 EDUCATION

INTEGRATED MSC IN COMPUTER ENGINEERING & INFORMATICS   OCT. 2016 - APRIL. 2022
University of Patras

> Diploma Thesis : "Research and Development of a system for Bias Identification in Recommender Systems", under the supervision of Associate Professor Christos Makris and co-supervision of Yannis Kanellopoulos, Founder & CEO at Code4Thought.

☰ SKILLS

Programming languages	Python, Java, PHP, MATLAB
Databases	MySQL
Tools & IDEs	IntelliJ Idea, Eclipse, Visual Studio Code, PyCharm, Microsoft Office, Latex, Git
Operating systems	Microsoft Windows, UNIX

🈂 LANGUAGES

Greek (Native speaker)   ●●●●●
English (C2 Proficiency-CPE, University of Cambridge)   ●●●●○

🖥 University Projects

Data structures
4TH SEMESTER

 github.com/rkapsalis/CEID-projects/tree/master/Data Structures

implementation of Digital Tree (Trie) which allows the user to search for, add, or delete a word from the structure, Red-Black Tree to support insert and search operations, Merge Sort algorithm, Linear Search, Binary search & Interpolation search.

`Java`

Operating systems
5TH SEMESTER

 github.com/rkapsalis/CEID-projects/tree/master/Operating Systems

bash shell scripting.

`Bash shell` `C`

Databases
5TH SEMESTER

 github.com/rkapsalis/CEID-projects/tree/master/Database Lab

a MySQL database (queries, triggers and stored procedures) was designed, and a GUI was implemented (in JAVA) for an e-recruitment app.

`Java` `MySQL`

Principles of Programming Languages and Compilers (1st project)
6TH SEMESTER

 github.com/rkapsalis/CEID-projects/tree/master/Compilers

designed a lexical analyzer & parser for Tweet-JSON using the open-source tools flex and bison.

Principles of Programming Languages and Compilers (2nd project)
6TH SEMESTER

 github.com/rkapsalis/Document-similarity

cosine similarity between sets of documents was calculated

`Python`

Software engineering
8TH SEMESTER

 github.com/rkapsalis/SoftwareEngineerProject

5 deliverables including

> Technical documentation : Project Plan, Sequence diagrams, Robustness diagrams, Team plan, Use cases, Risk assessment, Feasibility study, Class diagram and Project description
> School management system developed in Java FX.

`Java`

Web-programming
9TH SEMESTER

 github.com/rkapsalis/project-web

web-app for the collection, management and crowdsourced information analysis of spatiotemporal information data on human activity using Google Location History for the city of Patras.

`PHP` `Javascript` `MySQL` `HTML` `CSS` `LeafletJS`

Scientific computing
9TH SEMESTER

 github.com/rkapsalis/Scientific-computation

`MATLAB`

Decision Theory
ELECTIVE COURSE

 github.com/rkapsalis/sentiment_classification

implementation of two deep learning models for sentiment classification and opinion prediction based on 2 movie reviews datasets. More specifically, a Long Short-Term Memory model and a Dynamic CNN model were built using Keras Tensorflow and Pytorch respectively.

`Python` `Tensorflow` `Pytorch` `Jupyter Notebook`

Software Quality Assurance and Standards
ELECTIVE COURSE

 github.com/rkapsalis/CEID-projects/tree/master/Software quality

various exercises (including a peer-assessment)

E-commerce

ELECTIVE COURSE

 github.com/rkapsalis/E-commerce

developed 2 Wordpress plugins & a ski clothing e-shop based on WooCommerce, called "Mountain Slope".

`PHP` `Wordpress` `WAMP`

Data mining

ELECTIVE COURSE

 github.com/rkapsalis/Data-mining-project

red wine quality prediction using Support Vector Machines (SVM) and fake news detection using a Sequential Neural Network.

`Python` `Tensorflow` `Jupyter Notebook`

Multidimensional Data Structures

ELECTIVE COURSE

 github.com/rkapsalis/Range-and-similarity-queries

implementation of B+ Tree to execute range and exact match queries and of the Locality Sensitive Hashing (LSH) algorithm, using the MinHash method for finding similar documents as measured by Jaccard similarity.

`Python`

Knowledge representation in WEB

ELECTIVE COURSE

 github.com/rkapsalis/Semantic-Web

> 1st assignment : an RDFS ontology was created along with some SPARQL queries
> 2nd assignment : various tasks on XML
> 3rd assignment : an OWL ontololgy was created in Protégé and an app was developed in Java for the modification of the ontology and the retrieval of instances

`Java` `XML` `RDF` `SPARQL` `OWL`

🎓 Seminars

July 2017	The Art of Data Structures, Workshop,
	> Computer Engineering & Informatics Department, University of Patras

June 2020	Python Webinar : Building Software with Python, Webinar,
	> Computer Engineering & Informatics Department, University of Patras

June 2020	Machine Learning Algorithms with Applications on Graphs, Webinar,
	> EESTEC LC Patras

October 2020	Intro to Machine Learning, Data Science & Deep Learning, Webinar,
	> EESTEC LC Patras

November 2020	Git and Github webinar, Webinar,
	> IEEE Student Branch of Ionian University

December 2020	How to train your pandas, Workshop,
	> IEEE Student Branch University of Patras

April 2021	Artificial Intelligence at Google's DeepMind, Webinar,
	> Computer Engineering & Informatics Department, University of Patras

June 2021	On Ethics and RegTech : How to use Technology to govern Technology, Workshop,
	> Code4Thought