

# Romanos KAPSALIS

## AI Engineer

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## PROFESSIONAL EXPERIENCE

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- July 2023** | **Junior AI Engineer, Code4Thought, Patras-Greece**
- > Responsibilities
    - > Core contributor to the design and development of the company's flagship AI testing and auditing platform, collaborating with AI engineers, data scientists, and software engineers.
    - > Led feasibility analysis and implemented 5+ critical AI features, including model performance evaluation, fairness/bias testing, explainability analysis, statistical analysis and drift detection.
    - > Converted 2+ successful research prototypes into production ready features, improving execution efficiency and computational performance.
  - > Key Achievements
    - > Accelerated platform readiness for MVP and alpha releases by designing and implementing core AI evaluation features.
    - > Delivered live technical demos and presentations to 10+ enterprise clients, contributing to a 80% customer retention rate
    - > Automated 60% of the platform's core evaluation workflows, cutting manual assessment efforts in half and improving efficiency.

- January 2022** | **Junior AI Consultant, Code4Thought, Patras-Greece**  
**June 2023**
- > Responsibilities
    - > Evaluated the performance, fairness, security and explainability of AI systems, working closely with engineering teams, providing actionable insights for AI risk assessment and mitigation.
    - > Conducted AI system audits for 10+ enterprise AI models, ensuring compliance with ISO standards and AI regulations.
    - > Provided technical guidance on AI model tuning, data preprocessing, and optimization to cross-functional teams, ensuring successful delivery within scope, timeline, and budget constraints.
  - > Key Achievements
    - > Contributed to AI due diligence efforts for 2 major acquisitions, evaluating technical feasibility, scalability, and potential risks in AI models and data infrastructure, contributing to successful investment decisions.
    - > Conducted comprehensive analysis of 3 AI systems for a leading bank, identifying critical issues related to model performance, bias/fairness, and compliance with regulatory standards
    - > Developed an AI risk assessment tool, reducing AI compliance validation time by 50%.

- April 2021 | Machine Learning Engineer Intern, Institute for Bio-Economy and Agri-Technology (iBO),  
Centre for Research and Technology – Hellas (CERTH), Volos-Greece
- July 2021
  - > Responsibilities
    - > Performed data annotation, preparation and engineering for training AI models.
    - > Applied Machine learning unsupervised (Self-Organizing Maps, Gaussian Mixture Models) and supervised learning (Random Forest, SVM, XGBoost, AdaBoost, Logistic Regression, KNN, CART) algorithms to real-world AI problems.
    - > Facilitated discussions with project partners and other stakeholders
  - > Key Achievements
    - > Involved in two EU-Funded (Horizon 2020 research and innovation program) projects (Kyklos 4.0 and Stargate) developing AI solutions for sustainability and manufacturing
    - > Prepared part of a technical deliverable for Task 3.5 of Kyklos 4.0 Project, influencing EU-funded AI research initiatives.
    - > Built a deep learning model (U-Net) in Keras Tensorflow for a semantic image segmentation task (weed detection) achieving 92% accuracy on test data , reducing manual weed removal efforts by 40% through automated identification.

## 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 Yiannis Kanellopoulos, Founder & CEO at Code4Thought.

## SKILLS

<b>Programming languages</b>	Python, Java, MATLAB
<b>ML and DL Frameworks</b>	TensorFlow, Keras, PyTorch, scikit-learn
<b>Visualisations &amp; Dash-boarding</b>	Plotly, Dash, Streamlit, seaborn, matplotlib
<b>MLOps Tools</b>	MLflow, AWS SageMaker, CI/CD Pipelines for ML (Docker, GitHub Actions)
<b>Statistical Analysis</b>	A/B testing, hypothesis testing, regression analysis
<b>Machine Learning &amp; AI</b>	Supervised & Unsupervised Learning algorithms, Explainability (SHAP, LIME), Fairness/Bias, Adversarial Robustness, AI Risk Assessment & Compliance
<b>Data Science &amp; Engineering :</b>	Data Preprocessing (Pandas, NumPy), SQL Databases, Feature Engineering
<b>Software Development &amp; Tools :</b>	Bash, Rest APIs, Celery, Git, Agile Methodologies

## LANGUAGES

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