Alexandros Kalergis

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Education

University of Patras March 2024
Integrated Master Electrical & Computer Engineering *GPA 7.04/10.0*

Experience

BuildUpLabs | *AI Product Developer, Internship Erasmus+ Placement, Lisbon, Portugal* Oct.2023 – Feb.2024
- Spearheaded the ideation and interaction design phases for an AI digital product that suggests best business models.
- Developed the MVP with Retool and Python using OpenAI API, ensuring alignment with strategic objectives.
- Collaborated with a cross-functional team to refine project concepts, gaining teamwork & communication skills.

Laboratory of Automation & Robotics | *Research Study, Student, Patras, Greece* March 2023 – Sept.2023
- Conducted Master's Thesis research on a 2DOF robotic system learning handwriting through artificial intelligence.
- Participated in competition as a member of the laboratory presenting findings from my Master's Thesis.

Project Highlights

Robot writing via Reinforcement Learning (Received Excellence) | *Python, Thesis, Deep Q-Learning* 2023
- Designed and developed a 2-DOF robot using reinforcement learning algorithms to learn handwriting.
- Acquired experience with Python, NumPy, Tensorflow, PyTorch, Deep learning & Neural Network Architecture.
- Conducted research on multiple academic papers, enhancing research & analytical skills.

Supervising Professor: Charalampos Bechlioulis

Design & evaluation of a Navigation App | *Figma, PACT, Hix-Hartson, SUS Questionnaire, KLM Evaluation* 2023
- Evaluated the "Komoot" app using questionnaires, Keystroke-Level Model (KLM) & heuristic methods.
- Analyzed typical users and created detailed user personas & use scenarios.
- Designed a navigation app utilizing the PACT concept and the Hix-Hartson design model.

Supervising Professor: Nikolaos Avouris

Clustering using Support Vector Machines | *MatLab, Gaussian Kernel Function, KMeans Algorithm* 2022
- Utilized Gaussian Kernel function to approximate the probability density of a uniformly distributed random variable.
- Engineered a classifier to distinguish between circles (•) & stars (*) (as points) using the Kernel Function.
- Designed a point (x, y) classifier employing KMeans & Optimum KMeans Algorithm.

Image Recovery using GANs (Received Excellence) | *MatLab, Gradient Descent Algorithm* 2022
- Reconstructed images with missing parts of handwritten numbers from MNIST dataset.
- Enhanced image recovery for noisy images through advanced Gradient Descent Algorithm.

Supervising Professor: George V. Moustakides

Image Classification with fully-connected Neural Networks | *Python, Hinge, Exponential, Cross-Entropy* 2022
- Trained fully connected neural networks using Hinge, Exponential & Cross-Entropy loss functions.
- Developed a classifier with these networks to recognize digits [0-9] from the MNIST dataset, using Keras library.

Skills

Languages: Python, MatLab, C, Java, Prolog, Clingo, Arduino, HTML, Verilog, LaTeX

Tools: Git/GitHub, VS Code, CLion, PyCharm, Arduino IDE, Linux, Figma

Achievements

Earned commendation in Artificial Intelligence Competition Nov.2023
Supervising Professors: Charalampos Bechlioulis, Kyriakos Sgarbas
Collaborator: Vassileios Kalaitzopoulos

Completed successfully all courses in 4.5 years among the 2.9% of all students. Oct.2018 – Feb.2023