NIKOLAOS KOKKINIS-NTRENIS

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WORK EXPERIENCE

University of Applied Sciences and Arts of Western Switzerland July 2020 - Now
Research Software Engineer *Geneva, Switzerland*

· Modeling and simulation of pathological gait resulting from motor impairments. Using real patient data provided by Hopitaux Universitaires de Geneve (HUG) and Opensim simulator provided by Ecole Polytechnique Federale de Lausanne (EPFL). We construct a data-driven model using Reinforcement/Imitation learning methods to predict a patients gait and to anticipate the gait modifications of clinical data (virtual treatment).
Use: Pytorch, Tensorflow, W&B, Slurm, Docker, Singularity, Opensim, Python

CERN August 2017 - December 2019
Software Engineer *Geneva, Switzerland*

· Data analysis of the hardware components of the Compact Linear Collider (CLIC) Accelerator and Detector to assess its social impact and visualization of it using graphical database.
Use: Chart.js, JS, Neo4j, Datatable(Python), Python, Numpy

CERN September 2015 - November 2016
Technical Student *Geneva, Switzerland*

· Built software that analyzes and clusters particles using the timepix particle detector. The software was used to help students understand particle physics while allowing educational institutions to provide it as a low-budget (100 euros) alternative to Pixelman (6,000 euros).
Use: JQuery, Javascript, HTML5, CSS, Python, Numpy, JavaScript ROOT

National Centre of Scientific Research "Demokritos" July 2014
Intern *Athens, Greece*

· Examine of correlation among movies extracting low level audio signals, visual & textual features to construct a movie recommendation system.
Use: JQuery, Javascript, HTML5, CSS, PHP, Python, Gensim, Numpy

EDUCATION

University of Geneva, Switzerland September 2018-Now
Master in Computer Science (GPA: 5.0/6)
Thesis: Modeling pathological gait resulting from motor impairments: Compare and combine neuromechanical simulation with Reinforcement/Imitation learning approaches.

Harokopio University of Athens, Greece September 2010- February 2018
BSc. in Informatics and Telematics (GPA: 7.7/10)
Thesis: Create a quad-copter with Arduino Yun and manipulate his movement through Wifi from a laptop or mobile phone. The quad-copter has 5 sensors(temperature, humidity, noise detector,flame detector, gps) and collect those data through his flight time.

Publications

- "The Compact Linear e+e Collider (CLIC) - 2018 Summary Report", CERN 2018, Link
- "Discovering Similarities for Content-Based Recommendation and Browsing in Multimedia Collections", IEEE 2015, Link

Computing Certifications

- CERN School of Computing 2016 Diploma, Vrije Universiteit Brussel 28 Aug.-10 Sept. 2016
- CERN White Hat courses, Computing Security department September 2015 - December 2015

PROJECTS/ACTIVITIES

Online robotic simulated challenges March 2021
Participated in the robotbenchmark and AWS DeepRacer challenges.
Use: Tensorflow, Python, AWS

Visualization of lexico-semantic networks March 2019- October 2019
Project in collaboration with Neuroscience department of Geneva University, analyzing and visualizing lexico-semantic data.
Use: Django, Pandas, Numpy, D3.js

"Baxter" Mimic 18 July 2018
Made the Rethink Robotics Baxter robot mimic arm movements. This was developed for the Cineglobe 2018 film festival at CERN.
Use: Processing, Bash, ROS

"RefuGR"/"NativeNet" 10 December 2016
Our team won first prize at Hack the Camp (100 participants hackathon). We built a prototype of a mobile app that would help immigrants have access to information shared by Athens-based NGOs. The app also offered video-based language courses of Greek-Farsi. .
Use: IonicFramework, AngularJs, Bootstrap, Firebase, Javascript, SQL

"DepictIt" Web application 16-18 September 2016
Developed a Taboo-like game during HackZurich 2016.
Use: Python Django, Messenger Bot API and Google Vision API

"Food & Safety Monitor" Web application 4-7 July 2014
Second prize at the 2nd SemaGrow Hackathon (30 participants). We built a web app that helps farmers to access information about seeds (e.g. watering needs, cost, time to grow, etc)
Use: Javascript, Java, JSP, SQL

REFERENCES

Reference letters are available upon request

- Prof. Alexandros Kalousis, Professor at University of Applied Sciences, Western Switzerland
- Dr. Steinar Stapnes, Linear Collider Study Leader at CERN
- Dr. Sotirios Boutas, Web Manager at CERN
- Prof. Iraklis Varlamis, Associate Professor at Harokopio University of Athens

LANGUAGES

Greek: Native speaker
English: Proficiency
French: Working proficiency