Benjamin Sanati

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EDUCATION

University of Southampton
MEng Electronic Engineering with Artificial Intelligence

Date of Completion: June 2023
Current Average: First (80%)

Relevant Modules: Foundations of ML, Advanced ML, Differentiable Programming and DL, Data Mining, Optimisation, Computer Engineering, Advanced Computer Architecture, Numerical Methods

Hills Road Sixth Form College
A Levels: Maths, Physics, Chemistry

Date of Completion: June 2019

RELEVANT EXPERIENCE

UG Research Project Intern
University of Southampton

June 2022 - September 2022

- Gained an extensive amount of experience using object detection models and the attention mechanism
- Created Vision Transformer (ViT) models using the PyTorch framework for the multiple object tracking task
- Fine-Tuned a pre-trained ViTDet object detection model on the MOT17 dataset
- Implemented an efficient video handling module with sparse temporal sampling
- Presented a summary of the project findings to both students and academics

Year 3 Individual Project
University Project

September 2021 - May 2022

- Investigated the accuracy-specificity trade-off of early-exiting dynamic DNNs
- Designed a novel CNN architecture that provides adaptable classifications in granularity during inference, which subsequently improved classification flexibility and hierarchical representation power at run-time
- Performed a thorough analysis of the model in comparison to other similar models and presented findings in a paper
- Presented the project findings to two academics in the project viva

AI Hackathon
Hosted by Cirium

February 2022

- Spearheaded a team of 3 members to create a solution that earned us a joint 3rd place finish
- Developed data analytical techniques to process data about organized events and online flight query volumes allowing us to determine and identify the events that lead to a spike in flight requirements
- Trained an autoencoder neural network to locate the anomalies in flight query volumes
- Presented our solution to a panel of judges, the majority of which were representatives from Cirium

Year 2 Design Project
University Project

February 2021 - April 2021

- Led a successful group project (9 members) that addressed the issues of employee mental and physical wellbeing during lockdown by encouraging physical activity during the remote working period
- Created a direct remote connection between all users and the website by setting up an MQTT communication server on AWS
- Integrated the server, website and embedded devices allowing data to be processed from the user and displayed on the website
- Acted as a mediator, contingency planner, form manager and organizer, promoting and maximizing the teams daily progress to ensure the high quality standard of project completion
- Presented our final solution as a team

ADDITIONAL INFORMATION

Skills: Python, C++, Linux, Slurm Workload Manager, PyTorch, NumPy, LaTeX

Soft Skills: Teamworking, Creative Problem Solving, Project Management

GitHub: https://github.com/ben-sanati

LinkedIn: https://www.linkedin.com/in/benjamin-sanati/

Udacity Courses: Structuring ML Projects, NNs and DL, CNNs, Improving DNNs

Interests: Football, Basketball, Cinema, Pool, Reading

Referees:

- Academic - Professor Geoff Merritt   023 8059 2775   gvm@ecs.soton.ac.uk
- Personal - Iain Monaghan   07808283335   iain.monaghan0@gmail.com