

Mehmet KOSEOGLU

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Introduction

I am a current student in Douglas College, and I am studying in the Computing and Software Systems Post Baccalaureate Diploma Program. Currently I have a student visa that allows me to work part-time in Canada, and my student visa expires on 2023/11/30.

I have worked in Research and Engineering roles where my focus was in developing Machine Learning algorithms. For future work, I am interested in Web and Application Development as well as Game Development. I am very motivated, curious and I love to learn new things. I enjoy being part of a team and I am confident in my communication skills. I am looking for roles where I can improve my existing skills and hopefully learn new ones along the way.

Key Skills

- Programming: C, C#, C++, Java, Python, Javascript, R, Haskell, MATLAB
- Web Development: Express.js, React.js, Redux, MongoDB, Node.js, MaterialUI, Django
- Operating Systems: Linux, MacOS, Windows, Robot Operating System (ROS)
- Machine Learning: Tensorflow, Keras, PyTorch, SciKit
- Version Control: Git, GitHub
- Other: Unity, IntelliJ
- Design: Adobe XD, Photoshop, Illustrator, InDesign, Premiere

Education

- 2021 - Present **Douglas College**, Canada. Post-Baccalaureate Diploma – Computer and Information Systems
- 2017 - 2020 **University of Melbourne**, Australia. Bachelor of Science – Computing and Software Systems
Final Year WAM: 72.12 / 100.00
- 2015 - 2017 **Middle East Technical University**, Turkey. Bachelor of Science – Biology
Minor: Computer Science
GPA: 3.54 / 4.00 (transferred to University of Melbourne)

Work Experience

- 12/19 - 03/20 **Monash University**, Australia. Research Assistant.

Roles and Responsibilities:

- Worked in Prof. Tom Drummond's Computer Vision and Robotics Lab
- Worked as part of a team in designing an autonomous robot photographer
- Trained and evaluated Convolutional Neural Networks for selection of desirable pictures
- Implemented face detection algorithms using Deep Learning for subject selection
- Used various data types such as XML and JSON to be used in neural network training
- Used Google Cloud Platform with data stored on Google Cloud Buckets
- Used data preprocessing techniques such as feature scaling, imputation and normalisation

Achievements:

Successfully completed the entire proposed project in less than 3 months and managed to complete and submit a research paper on the project, which was recently accepted for IEEE RSJ International Conference on Intelligent Robots and Systems (IROS) 2020 <https://arxiv.org/abs/1904.05688>.

The final product was a robot capable of cruising a given area without hitting obstacles, that could also detect clumps of people to take their photos. These photos were then evaluated using Machine Learning algorithms to first detect faces, then rate these faces according to criteria such as lighting, angle, expression and focus. Afterwards, the result was once again evaluated by another Machine Learning algorithm that took the positioning of these faces in the overall image, and selected the best image out of artificially cropped alternatives to produce a quality photo.

02/18 - 06/18 **Sky Artificial Intelligence Consulting**, Australia. Contract Software Engineer

Roles and Responsibilities:

- Explored Machine Learning approaches for handling intersections for self-driving cars
- Used python libraries such as Keras, Tensorflow and SciKit in machine learning projects
- Implemented Artificial Neural Networks (ANN) and Convolutional Neural Networks (CNN)
- Implemented k-nearest neighbours and decision tree algorithms for intersection handling
- Worked with Simulation of Urban Mobility (SUMO) for traffic simulations
- Used various data types such as XML and JSON
- Used data preprocessing techniques such as feature scaling, imputation and normalisation
- Worked with ROS and OpenCV to gather laser scan images

Achievements:

Took a major role in developing an unsupervised intersection handling algorithm for Honda's Research and Development team, where my responsibilities were testing out various Machine Learning algorithms ranging from decision trees, k-nearest neighbours, Artificial Neural Networks and more, in hopes for generalising intersection handling for different road shapes, lane numbers, and degrees of traffic. Successfully delivered a report on the performances of these algorithms for further evaluation by Honda.

Also took a minor role in the start-up company Savioke, to develop a leg tracking algorithm that was capable of detecting humans just by their output on a laser scanner, in order to be used when cameras were not available in obstacle detection and collision prevention.

School Projects

08/20 - 11/20 **IT Project**, ePortfolio

- Worked as a full-stack developer in a 5 person team to develop an ePortfolio Web Application
- Developed the application using the MERN stack
- Worked extensively with Node.js to create the application with MongoDB as the database
- Used Express.js to develop the backend of the application
- Used React on the frontend along with popular libraries such as Material UI
- Used Redux to control the states of the web app
- Hosted the fully functional application on Heroku
- Used project management and communication tools such as Trello and Slack
- Developed using the Agile Software Development Principle
- Worked on various technological documentation and diagrams

08/20 - 11/20 **Graphics and Interaction**, 3D Unity Game

- Worked as part of a 4 person team to develop a 3D Unity Game
- Coded in C# for the logic of the game
- Created randomly generated landscapes using the Diamond-Square Algorithm,
- Coded in Cg-HLSL to create realistic water shaders
- Designed the game and levels
- Worked with particle effects, animation and sound effects

Training and Certificates

2020	Express.js, Node.js & MongoDB, <i>Certificate by Udemy</i>
2020	Complete C# Unity Developer 2D - 3D: Learn to Code Making Games, <i>Certificate by Udemy</i>
2019	iOS 13 & Swift 5: The Complete iOS App Development Bootcamp, <i>Certificate by Udemy</i>
2018	Advanced AI: Deep Reinforcement Learning in Python, <i>Certificate by Udemy</i>
2018	AI: Reinforcement Learning in Python, <i>Certificate by Udemy</i>
2018	Computer Vision A-Z: Learn OpenCV, GANs and Cutting Edge AI, <i>Certificate by Udemy</i>
2017	Deep Learning A-Z: Hands on Artificial Neural Networks, <i>Certificate by Udemy</i>
2017	Using Python for Research, <i>edX Certificate, Harvard University</i>
2017	Statistics and R, <i>edX Certificate, Harvard University</i>
2016	Introduction to Computer Science and Programming Using Python, <i>edX Certificate, MIT</i>

Related Coursework

- IT Project
- Graphics and Interaction
- Elements of Data Processing
- Database Systems
- Models of Computation
- Design of Algorithms
- Software Modelling and Design
- Computer Systems

English Language Tests

2020 IELTS Academic overall score of 8.5 / 9.0

Social Activities and Interests

- Founder of METU Board Game Community
- Percussionist for over 15 years
- Gaming
- Graphic design