Sigurður Helgason

Computer Scientist

Contact Information

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Summary

Computer scientist with a focus on Artificial Intelligence, Machine Learning & Data Science. Been programming since I was 12, still enjoy it as much as ever. I recently handed in my Masters Thesis, writing about explainable artificial intelligence, and I'm eager to start applying my skills in industry.

Skills

- Programming: Python, C/C++, Java, JavaScript, C#, HTML/CSS, PHP
- Technologies: AWS, Docker, Git, Linux, MySQL, PostgreSQL, Blockchain
- Frameworks: Keras/Tensorflow, Flask, React, Unity, PyTorch, .NET, Jenkins/TravisCI

Experience

Researcher & Programmer / RU Fintech Center

January 2018 - Present, Reykjavik

- Developed a blockchain platform for hosting digital certificates securely within a smart-contract, allowing students and potential employers to verify the authenticity of digital certificates.
- Lead developer on an E-voting platform
- Developed in NodeJS, Go, and Python. Used MongoDb and PostgreSQL
- Wrote two research papers

Teaching Assistant / Reykjavik University

Years 2017 - 2019, Reykjavik

- Taught classes and helped students as a teaching assistant throughout my studies at Reykjavik University for the courses Algorithms, Computer Networks (twice), Web Development, Artificial Intelligence (Three times), and lastly Machine Learning

Programmer / Icelandic Customs Authority

Summer 2016, Reykjavik

- Created the development methodology for the customs authority programming department introducing continuous development and an Agile workflow

Student Council member / Technical Academy

Years 2012 - 2013, Reykjavik

- Assisted in managing events of the various groups in my highschool including programming competitions

Account Manager / Competitive Programming Association of Iceland (KFFÍ)

Years 2012 - 2013, Reykjavik

- Managed the financial records for the competitive programming association of iceland

Projects

MSc Thesis & Project - Strategic Evaluation of Neural Networks in Board Games

Semester 2018

- Created a Neural Network capable of playing the game Breakthrough. This neural network learned to play the game only by playing against itself.
- Devised new methods of explainable artificial intelligence where examining neural networks capable of playing board games is the objective.
- Wrote a thesis detailing my research, available here.

BSc Thesis & Project - ComboPal / PartiScope

Semester 2018

- Created a program Partiscope to automatically enumerate set partitions by breaking a combinatorial object down into its core components finding patterns and relations, resulting in a combinatorial specification and a generating function for the enumeration of the combinatorial class. Thesis is available at skemman.
- Created a visualization tool for viewing the resulting combinatorial specification.
- The project was created using Python, Flask, and Javascript, available at combopal.ru.is.
- Project was awarded the maximum grade given for BSc Thesis 10/10

MovieTrailer ML / Machine Learning

Semester 2017

- Developed a 3d deep convolutional neural network to analyze film trailers for identifying their genre. Project was developed in Python with Keras. The code is available here.

Dragnet / Artificial Intelligence

Semester 2017

- Developed a deep neural network to analyze water damaged documents written in cyrillic to apply optical character recognition, using tensor flow. The project was inspired by a document leak where many presidential documents had been thrown underwater in an attempt to discard them.

SeaDrone / Summer Project

Summer 2017

- Funded project by the Icelandic Government as well as the Bank of Iceland, for 20M ISK
- Assisted in the creation of a drone hull for sea
- Developed an artificial intelligence in C for navigating at sea, this was developed on a raspberry pi including the orchestration of the many sensors and sonar devices on board the drone
- Created a web interface for captains of shipping vessels to interact with the drone, the web interface was developed in NodeJS, and ReactJS

Education

Reykjavik University / MSc in Computer Science

August 2018 - Present, Reykjavik

Completed the Computer Science degree with a GPA of 9.1/10

Reykjavik University / BSc in Computer Science

August 2015 - June 2018, Reykjavik

Completed the research based Computer Science degree with a GPA of 8.9/10

Technical Academy / School of Information Technology

August 2011 - June 2015, Reykjavik

Finished a combined highschool degree and Computer Science diploma