Ólafur Aron Jóhannsson

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Summary

Software Engineer with over 10 years of software development experience, including 8 years specializing in mission-critical Air Traffic Management systems. Key contributor to Polaris ATM, a next-generation Air Traffic Control system currently operational in Iceland and Hungary. Experienced in developing high-performance radar display systems that air traffic controllers rely on for real-time airspace management, from oceanic sectors to dense continental areas. Technical expertise spans both low-level systems programming and modern web technologies, with extensive experience in C++, Qt/QML, OpenGL, C#, Python, and JavaScript on Linux and Windows environments. Proven track record in designing and implementing complex technical solutions across aerospace and commercial sectors. Published researcher in Machine Learning and Large Language Models, with work presented at SIGUL2024.

Technical Expertise

Programming	C++, C#, Python, JavaScript, Node.js, SQL
UI & Graphics	QML, OpenGL, React, TailwindCSS, d3.js, Canvas API
Frameworks	Qt, Django, ASP.NET MVC, Next.js
Databases	PostgreSQL, Microsoft SQL Server, MySQL
AI & ML	PyTorch, Scikit-learn, OpenCV, LLMs, NLP
Systems	Linux (Primary), Windows, macOS

Work Experience

Tern Systems
Kópavogur, Iceland

SOFTWARE ENGINEER, PROMOTED TO SENIOR SOFTWARE ENGINEER
2016 - Present

- Core developer of Polaris ATM, a next-generation mission-critical Air Traffic Control system operational in Iceland and Hungary
- Implemented high-performance 4K radar display system using C++, Qt/QML, and OpenGL for real-time air traffic management
- Developed user interfaces for safety-critical features including aircraft visualization, safety nets, PIP, sectorization
- Architected and developed Air Archive, a web-based surveillance replay system using Python, JavaScript, Canvas API and d3.js
- Developed a data warehouse platform that hosts millions of rows of surveillance data, used for data analysis using Django and Python

Venuepoint A/S
København, Denmark

SOFTWARE DEVELOPER
2013 - 2016

- Developed and maintained ticket management systems for major Scandinavian brands (billetlugen.dk, billetportalen.no, biljettforum.se)
- Maintained BoxOffice ticket and event management system using , ASP.NET MVC/WebForms, and SignalR WebSockets
- Implemented real-time ticket printing services and integrations using NodeJS and Microsoft SQL Server
- Created responsive front-end solutions for multiple markets using JavaScript and modern web technologies

Leiðir Verkfræðistofa
Kópavogur, Iceland

FREELANCE SOFTWARE ENGINEER
2014 - 2016

- Developed Nayax VPOS payment system for major tourist locations using C++ and C#, implementing Marshall protocol integration
- Created card printer application using C# WinForms with MIFARE IC technology and BarTender printer integration
- Implemented web service API for payment transactions and access control using C# ASP.NET and XML web services
- Designed MySQL database architecture with stored procedures for transaction processing and user management

Reykjavík University
Reykjavík, Iceland

TEACHING ASSISTANT
2013

- Taught lab classes in Web Programming, focusing on C#, ASP.NET MVC, JavaScript, and Microsoft SQL Server
- Provided hands-on guidance to students in developing web applications and understanding database concepts

Live Shuttle
Reykjavík, Iceland

SOFTWARE DEVELOPER
2012 - 2013

- Developed social media sharing application similar to Snapchat/Instagram stories as part of Startup Reykjavík Incubator program
- Implemented backend services using C#, ASP.NET MVC, and Azure cloud infrastructure
- Built RESTful APIs and database architecture using Microsoft SQL Server

Þekking hf.
Kópavogur, Iceland

SOFTWARE DEVELOPER / IT SPECIALIST
2011 - 2013

- Maintained Sarpur Information System for the Icelandic National Museum, managing over 1 million cultural heritage entries
- Supported the development and deployment of the public fiscal budget website for the Icelandic Ministry of Finance
- Implemented solutions using C#, ASP.NET WebForms, JavaScript, and Microsoft SQL Server

Education

Reykjavík University   *Reykjavík, Iceland*
DIPLOMA IN COMPUTER SCIENCE   *2024*

- GPA: 8.5

Courses

2023	KDAB, Advanced Qt/QML	*Kópavogur, Iceland*
2020	KDAB, Advanced C++	*Kópavogur, Iceland*
2020	KDAB, Modern OpenGL	*Kópavogur, Iceland*
2019	KDAB, Qt and QML	*Berlin, Germany*
2015	Promennt, MCTS - WCF with .NET 4	*Reykjavík, Iceland*
2015	Promennt, MCTS - Accessing Data .NET 4	*Reykjavík, Iceland*

Publications

ELRA Language Resource Association   *SIGUL2024 Workshop, Torino*
RESEARCH PUBLICATION   *2024*

- First author of peer-reviewed paper "Evaluating Icelandic Sentiment Analysis Models Trained on Translated Data"
- Research focused on improving Natural Language Processing capabilities for low-resource languages
- Demonstrated novel approach to sentiment analysis using machine-translated training data