

CATHAL DOOLEY

cathal.dooley11@gmail.com | +1 778-235-4474 | Vancouver, B.C.
cathaldooley.com

EXPERIENCE

SOFTWARE ENGINEER, Blackline Safety, Calgary, Canada

May 2021 - Present

- **Software Engineer**

Design and implement applications using Python and Twilio's REST APIs, enabling thousands of daily emergency calls to Blackline Safety's connected devices.

Develop and deploy AWS cloud-based solutions with Lambda, CloudFormation, CloudWatch, EC2, ECS, S3, VPC, IAM, RDS.

Containerise legacy applications using Docker and integrate with existing Docker containers in the system.

- **Data Engineer**

Perform SQL query tuning to improve the performance of long-running queries used within Blackline Safety's Alert Management Portal, which halved the alert query execution times.

- **Project Lead**

Coordinate the application, infrastructure, firmware, and test requirements of the highest priority project in Blackline Safety while also leading the daily scrum meetings.

- **On-Call Responder**

Carry out on-call duties on rotation, providing 24-hour support to ensure the health and wellness of all applications and services within Blackline Safety.

Implement alarms and logging for on-call monitoring using third-party services such as PagerDuty, Datadog, AWS CloudWatch, and Twilio.

SOFTWARE ENGINEER, First Derivatives plc, Dublin, Ireland

Mar 2018 - Mar 2020, May 2020 - Dec 2020

- **Java Developer**

Design and implement Java feedhandler APIs for First Derivatives' trading platform using Java frameworks such as QuickFixJ and Spring.

Liaise with multiple tier 1 investment banks and financial institutions to implement bespoke integrations. Optimise handling of real-time trade data to support high volume, low-latency trading at microsecond precision.

- **Backend Engineer**

Design, maintain and query backend databases using kdb+, q and SQL.

Implement openMAMA message oriented middleware for publishing and subscribing to message topics to connect application layers of the system.

Investigate, debug and resolve issues on Linux/Unix based servers.

- **Test Developer**

Design and maintain platform and integration tests with continuous integration frameworks like Jenkins and local JUnit test suites.

Design and develop a testing simulator to emulate real-time trades. The simulator can consume quote requests, produce quotes and execute orders.

Develop user acceptance tests using trading platform sandboxes provided by third-party partners. The sandbox environments produce production-like market data streams.

- **Client Success**

Build positive working relationships with clients while working on-site in major financial institutions. Report progress to clients with daily Webex meetings.

- **Training**

Completed intensive kdb+ workshops and the Capital Markets Training Programme I (CMTP1)

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SOFTWARE ENGINEER INTERN, The Insight Centre for Data
Analytics, Galway, Ireland

Jan 2016 - Aug 2016

- **Backend Engineer**
Implement client-facing APIs for web applications using integration frameworks such as DeployR.
Generate R powered analytics and graphics using biomarker datasets.
- **Frontend Engineer**
Design and develop web application UI using Javascript, HTML and RShiny.
- **Research Assistant**
Carry out extensive research focused on extracting insights from biomarker data.

EDUCATION

Bachelor Electronic & Computer Engineering, NUI Galway, Ireland

2013 - 2017

- First Class Honours, 1.1 (**GPA: 4.0**)

PROJECTS

- **Data Visualisation and Machine Learning Web Application** | R, RShiny
Web application for the visualisation, classification and clustering of user data. The web application uses mathematical algorithms to generate statistical analytics and produce machine learning models.
- **Machine Learning Algorithm Implementation** | Python
Implement, train and test a machine learning classification algorithm from scratch in Python. Evaluate and present the performance results of the algorithm.
- **galwayalterations.com**
The official website for a clothing alterations business in Galway, Ireland. It is a cross-platform website designed to create an online presence for the business and provide useful information to customers.
- **cathaldooley.com**
Cross-platform personal web page. Designed with HTML, Javascript and CSS.
- **The Laser Guitar** | Arduino Uno Microcontroller, C
An electronic laser guitar that can teach users how to play a specific song or allow an experienced user to freely play the laser guitar.

INTERESTS & HOBBIES

- **Music**
Passionate guitarist with experience playing in a number of bands.
Composer and producer of my own songs using Ableton, a digital audio workstation.
Music distributed on Spotify, Apple Music and Amazon Music under the artist name Dooley.
- **Sport**
Team member at local GAA and soccer clubs.
Organiser of weekly 5-a-side soccer tournaments with work.