David Collins

SOFTWARE ENGINEER

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Experience

Criteo
Ann Arbor, MI (Remote)
SOFTWARE DEVELOPMENT ENGINEER II
Aug 2021 - Present

- Member of the backend team responsible for ad delivery pipeline, internal campaign management API, and external API (**50M+ requests daily**) used by over **200,000 brands and retailers** worldwide.
- Owned **redesign of ad delivery pipeline** which decreased full ad catalog refresh **from 8+ hours to 50 minutes** (ScyllaDB CQL based ad delivery cache using .NET (C#) event driven systems prioritizing fault tolerance and scalability).
- Delivered "lockout" ad feature which **increased holiday revenue by 16%** by enabling brands to reserve entire retailer page for product based ad placements.
- Wrote design documents, drove communication between stakeholders and created multiple internal tooling & "runbook" processes for triaging and handling data inconsistencies & issues.

Rocket Companies
Windsor, ON
SOFTWARE DEVELOPER
Mar 2020 - Aug 2021

- Owned the design and implementation of a "loan event" email framework using **.NET 5 integrated with Salesforce Marketing Cloud**. Allowed business users seamless customization of email templates originating from ingested lead data.
- Drove architecture design and implemented core features of lead management microsystem (C#, .NET Core).
- Implemented CI/CD architecture deployment pipelines using CircleCI and Terraform with **AWS ECS, SQS, and Lambda**.
- Full stack development of loan management portal using Angular, Node.js (Express), and .NET Core.

X By 2
Farmington Hills, MI (Remote)
SOFTWARE ENGINEER
Sept 2019 - Mar 2020

- Developed a Data Quality Framework using **React / Redux** and **Material-UI** allowing for efficient state management, paired with a RESTful API (**Java Spring Boot**) utilizing Spring Security and Spring Batch for multithreaded execution of data quality tasks.
- Delivered stories and features in an agile manner as the primary SME, planning future stories with product owners while ensuring smooth deployment to production environments.

X By 2
Farmington Hills, MI
SOFTWARE ENGINEER INTERN
May 2019 - Aug 2019

- Full stack development of Data Quality Framework (React / Redux + Java Spring Boot)

University of Windsor
Windsor, ON
TEACHING ASSISTANT
Sep 2018 - Apr 2020

- Taught lab sessions and hosted office hours for Java (object oriented programming) and Computer Architecture I and II.

Education

University of Windsor
Windsor, ON
BCS COMPUTER SCIENCE
HONOURS, MINOR IN MATHEMATICS
Sep 2016 - Apr 2020

- **95.4%** major average
- Board of Governors Medal Recipient (**highest graduating average** in program)

Publications & Conference Presentations

Collins, David. A Genetic Algorithm Approach to the Iterated Prisoner's Dilemma

- Presented paper as **speaker at Canadian Undergraduate Computer Science Conference** (July 27, 2019)
- Evolved finite state machines using a genetic algorithm to outperform known game theory strategies.

Research Projects

Using Recurrent Neural Networks to predict rheumatoid arthritis activity levels (deep learning)

- Used **Keras and TensorFlow (in Python)** to implement a **recurrent neural network** to detect patterns in erratic C-reactive protein readings using real patient data from rheumatologist.
- Deep learning network achieved 86% success rate in classifying arthritis disease state.
- Breakthrough data findings have been applied on massive data sets by Pfizer with confirmed statistical significance.

Skills

Programming	C#, .NET (Framework, Core, 6+), Python, SQL, JavaScript, Java, C, HTML, CSS, Bash
Tools / Other	React, Salesforce, EF Core, Git, GitHub, Gerrit, Docker

Awards

2020	Board of Governors Award	**Highest graduating average** in program
2020	Great Distinction	Graduated with an academic standing of over **90%** (Major avg: 95.4%)
2020	Dean's List	Achieved above a **90%** average each academic year (2016-2020)