James Diffley

jamesdiffley28@gmail.com · +447918772514 · Github · LinkedIn · Edinburgh

Education

University of St Andrews 2018–2023

MSci (Hons) Computer Science, First Class

Graduated June 2023 with First Class Honours. Placed on Dean's List for exemplary academic achievement four years running (2019-2023).

Relevant Modules: Computer Architecture; Software Architecture; Artificial Intelligence; Databases; OS; Graphics

Greenhead College 2016–2018

A Levels (grades AAAA) in Mathematics, Physics, Chemistry, Music

Experience

Cirrus Logic 06/2024–Present

Software Tools Engineer

- Operates within a large, globally-distributed software team to design and implement advanced desktop software tools using **JavaFX**
- Tools are used internally to author rich, graphical configuration and tuning experiences, as well as being delivered externally to customers to allow them to integrate Cirrus devices into their products.
- Collaborates closely with cross functional engineers for **Scrum** stand-ups, requirement gathering and project planning
- Works to ensure development processes have a focus on quality, scalability and performance

FMG 01/2024–04/2024

Downtime Management Claims Handler

- Responsible for overseeing the repairs of fleet vehicles, from the time the incident was reported up until the vehicle was returned to the driver
- Leveraged strong communication skills, providing service knowledge and reassurance to resolve complex customer issues
- Applied creative problem-solving and attention to detail along with active listening and empathy to succeed in a fast-paced, customer-oriented environment

University of St Andrews 09/2020–01/2021

Undergraduate Research Assistant

- Developed a benchmark suite for **Idris 2** using **Bash**, under supervision of Dr. Edwin Brady. Idris 2 is a purely functional, **open source** programming language with first class types.
- Conducted profiling using **GNU** `gprof` to identify bottlenecks in the reference counting **C** runtime for Idris 2
- Gained experience working in an academic environment

Projects

Generative Music — MSci Dissertation 2022–2023

- A four-month dissertation exploring real-time, endless generation of music and visuals
- Applied a Markov model to musical harmony, implemented in **Python** using a large dataset
- Backtracking constraint solver applied to the problem of chord voicing
- Real-time synthesis of audio using **Csound**, with visuals dynamically reflecting the musical material
- Highly interactive design, allowing users to become a part of the music

Federated Social Network — Software Engineering Team Project 2020–2021

- Following **Agile**/**Scrum** best-practices, produced a social network allowing propagation of markdown text posts, images and live chat. Work was done as part of a five-person team using **git**, split loosely into front- and back-end sub-teams
- Worked as part of the back-end team to build and test a robust HTTP server in **Go** serving our API.
- Helped to build a responsive, clean user interface using **Angular**
- Designed a relational database schema to capture a complex scenario
- As team leader, participated in weekly meetings with 10 other groups. Collaboratively developed a protocol allowing propagation of content between our different applications

Skills

Languages: Kotlin, Java, Python, C, C++, Rust, TypeScript, JavaScript, SQL, Go, Haskell, Prolog
Tools: Git, UNIX utilities, Jenkins, JavaFX, Angular, React, DBMS (e.g. MariaDB), Agile, Scrum
Skills: Confident programmer, Mathematics, Problem solving, Team player, Creative thinker, Good communicator
Other Interests: I enjoy playing my guitar and trumpet, hiking, partaking in hackathons, and watching comedy