

Shane Fearon

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SUMMARY

Software Engineer w/ Artificial Intelligence training, with over 2.5 Years industry experience in Desktop, Mobile, Games Console, and Embedded applications.

COMPUTER SKILLS

Programming Languages

Proficient in: Python, C++, C, C#, Java, Dart, JavaScript, SQL, Prolog

Technologies, Software, and Methodologies

- **Mobile Development + Embedded:** Flutter, Android, Android Studio, OpenGL ES, Arduino, Raspberry Pi, LoRa, Embedded Wizard, PlatformIO
- **Artificial Intelligence:** TensorFlow, PyTorch, MXNet, Pandas, Matplotlib, OpenCV, NumPy, Pygame, SKImage, Microsoft Lobe
- **Desktop:** OpenGL, GStreamer, React Native, .NET, Unreal Engine 4, Windows, Linux
- **Version Control:** GitHub, Perforce, SVN, TortoiseSVN
- **IDEs:** Visual Studio, Visual Assist, VS Code, Arduino IDE, Eclipse IDE, Spyder, Jupyter Notebook
- **Development Methodologies:** Agile, Waterfall, Lean, Scrum, Kanban, easyBacklog, Trello, JIRA
- **Miscellaneous:** Teraterm, MS Office, Slack, Adobe Photoshop CC 2015, Adobe XD, Final Cut Pro, Lightworks, Audacity

EDUCATION

Queen's University Belfast

2014-2019

Belfast, Northern Ireland

MEng (Hons) Computer Games Development with a Year in Industry

1st Year Modules:

- Introduction to Computer Science
- Computer Architecture
- Fundamentals of Programming
- Introduction to Software Engineering and Project Management
- Reasoning for Problem Solving

2nd Year Modules:

- Data Structures and Algorithms
- Networks and Communications
- Professional Computing Practice
- Software Engineering and Group Project
- Games Programming using Android Games Design

3rd Year Modules:

- Artificial Intelligence
- Agile-based development with OpenGL ES and Android
- Advanced Visualisation using OpenGL
- Aspects of Game Engine Development
- Software Design Principles and Patterns

4th Year Placement: Sumo Digital, Sheffield (Placement Programmer)

5th Year Modules:

- High Performance Computing
- Digital Transformation and Intelligent Buildings
- Advanced Machine Learning
- Algorithms: Analysis and Applications
- Research and Development project

Saint Colman's College

2007-2014

Newry, Northern Ireland

- 4 A-Levels: Maths – A, Physics – A, ICT – B, Moving Image Arts – B
- 9 GCSEs at grades A*-C
- Double Distinction* in BTEC Firsts (2 GCSEs equivalent)

EXPERIENCE

Software Engineer

September 2019 - Present

Bytesnap Design, Birmingham

Duties:

- Work closely with clients to define and develop contracted software applications
- Develop in-house software for use in demonstrations and business applications
- Use a large variety of different technologies and software on projects, ranging from low-level Microprocessor code to high-level Mobile and Desktop Applications

- Work with and assist colleagues on other contracted projects, sharing knowledge of specialized subjects
- Participate in writing marketing articles based on company projects
- Adhere to ISO Quality standards on all projects

Placement Programmer

July 2017 – August 2018

Sumo Digital, Sheffield

Duties:

- Work with project managers and other leads to define and complete programming tasks in C++ using UE4
- Work with designers to implement gameplay and user interface elements to the designers' specifications
- Liaise with Quality Assurance to fix bugs
- Ensure the game is compliant with manufacturer's guidelines for the relevant platforms
- Maintain stability of development environment for the entire development team

Product Demonstrator

October 2015 – June 2017

Dyson, Belfast

Duties:

- Demonstrating products to customers, and approach potential customers
- Learn a customer's needs through interaction, and suggest a suitable product to fill those needs
- Answer any customer questions and concerns about products
- Maintaining display products and display area to a high standard
- Hit monthly sales targets, and filling in sales reports daily
- Opening and closing display stall in shopping centre.

Sales Assistant

March 2013 – June 2015

Pound Giant, Newry

ACHIEVEMENTS

- **AI Gesture Recognition System (Bytesnap Design):** I created a Gesture-Recognition System for an interactive demonstration in Python. This system consisted of a Convolutional Neural Network classifier, applied to Computer Vision, so it could recognize gestures a participant is performing, using only a regular USB camera as input. Transfer learning using TensorFlow was used to achieve a model with suitable accuracy. I recorded my own training data with volunteers which was used to retrain an existing pre-trained model to recognize custom gestures. This classifier was run using TensorFlow on a board similar to a Raspberry Pi and used to control a game for an industry booth at an industrial technology convention.
- **Auto Train Ticket Booker (Personal Project):** I identified a problem in my life, it was cheaper to book a train ticket to/from work every day using my rail card compared to buying a season ticket for my route. Manually buying the tickets became repetitive, so I automated this task and created an automatic ticket booker in Python using Selenium on the Trainline website. I learned that I was able to use my problem-solving skills as a software developer in a way to improve my quality of life, which was very satisfying.
- **Flutter Mobile Application (Bytesnap Design):** I defined, planned, and implemented features and UI for a mobile app written using the Flutter SDK. This project used bespoke native device code (Android) to implement obscure mobile features to accomplish specialized client-defined tasks, such as filtering incoming phone calls and messages, NFC tag sensing, putting the phone into silent mode, and locking the phone screen programmatically. Other tasks included: Bluetooth and WebSocket communication, UI design, and a user login system with privilege levels. The app formed part of a larger project for a prosumer-level phone docking station.

I took the initiative to use the Agile development methodology to plan the project. I liaised with the Client, alongside third-party Product and Graphics Design houses to clearly define the feature backlog for the app and used Agile software tools to manage the backlog into sprints. This improved the task-tracking and time management of the project.
- **Arduino programming (Personal Project):** I have used many different hardware modules in small-scale personal electronics projects, to learn the capabilities of each piece of hardware, and to use software to accomplish tasks and to stretch my skills as a software developer outside of work. Projects included using sensor and control systems such as motion, temperature, humidity, and ultrasonic sensors, as well as basic LCD displays, servo and stepper motors, and speaker modules.
- **Excel Business Application (Bytesnap Design):** I created an in-house Excel sheet business application using C# and .NET, to collate part names and manufacturers across multiple projects based on a legacy filing system and display this in a report. This report was used to make business decisions with company partners about which parts were used in client projects in the company.
- **Modular sensor system integration with LoRa networking (Bytesnap Design):** Created an application for a cutting-edge modular sensor system in C to transmit the sensor data over a LoRa network, using an STM32 LoRa board, to a hub device.

HOBBIES AND INTERESTS

- **Cooking:** Cooking is one of my passions. I enjoy the process of preparing fresh ingredients using different techniques depending on what dish I am preparing, and to recognize my mistakes and to improve the next time I cook that dish. I am always on the lookout for more dishes to cook and for new tools and techniques to improve my cooking process.
- **Inline Skating:** I am still an amateur at skating/rollerblading, but I am always improving. I like to explore new areas of Birmingham on my skates and utilizing trains to move around different areas, tackling hills and uneven terrain to find good spots to skate. I enjoy the feeling of exploration and getting a feel for the area around me. Through this I have learned perseverance, and to tackle new and exciting problems with enthusiasm.