Shane Fearon

Address: Apartment 49, 26 Longleat Avenue, Birmingham, B15 2EX
Mobile: +447866727423 **Email:** sfearon45@hotmail.co.uk
Portfolio: https://github.com/Inferno283/ShaneFearonPortfolioRepo/
LinkedIn: https://www.linkedin.com/in/shane-fearon-26a8a9106

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: C++, C, C#, Python, 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

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
- Work with and assist colleagues on projects
- Participate in writing marketing articles based on company projects
- Adhere to ISO Quality standards on all projects

Achievements:

- **Gesture Recognition System (AI):** I created a Gesture-Recognition System for an interactive demonstration in Python using Linux features. This system consists of a Convolutional Neural Network classifier, applied to Computer Vision, so it can recognize gestures a participant is performing, using only a regular USB camera as input.

  Transfer learning was used to achieve a model with accuracy suitable for the application. We recorded our own training data which was used to retrain an existing pre-trained model designed specifically for use in electronics and mobile devices. TensorFlow was used to retrain and run the classifier, along with other supporting packages. The classifier was run on a microprocessor and used to control a game which the player uses their arms to control.

- **Flutter Mobile Application:** I defined, planned, and implemented features and UI for a mobile app written using the Flutter SDK. This project included using bespoke native device code (iOS and Android) to implement obscure mobile features to accomplish specialized client-defined tasks. I also liaised with third-party Product and Graphics Design houses for product and UI designs.

  I took the initiative to use the Agile development methodology, assisted by easyBacklog and Trello, to plan the project. This enabled the client and I to have a clear roadmap of which features they wished to have in the final product, and to provide accurate time estimates for each feature, reviewed periodically, and updated.

- **Modular Sensor system integration with LoRa:** Tested and wrote 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.

- **Business Process Excel Scraper:** Created an in-house Excel sheet data scraper 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 decisions with company partners about when certain parts were used in hardware design in the company.

- **Prototype Circle UI:** I rapidly prototyped a User Interface for a circular screen, using Embedded Wizard, to show a client the performance of their UI design on an Embedded system. I also located an international supplier for a circular screen for the device to display the program.

- **Hardware Testing (Endoscope and Video Streaming):** I tested various hardware devices for their capabilities, including an endoscope camera, which I tested to make sure it met client specifications (Clarity, Infrared Sensitivity, Field of View).

  I also tested a digital video stream for use in a critical military hardware scenario. I used a Raspberry Pi camera module v2 along with hardware accelerated video encoding and decoding, using GStreamer, to test the latency of a digital video stream vs an analog system to determine if it met specifications for the application.

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

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)

REFERENCES

Andrew Hogan – Line manager, Bytesnap Design
Email: andrewh@bytesnap.co.uk
Phone (Bytesnap Design): 0121 222 5433

James Graves – Supervisor, Sumo Digital
Email: jgraves@sumo-digital.com
Phone (Sumo Digital): 0114 242 6766

HOBBIES AND INTERESTS

- **Personal Project (Automatic Train Ticket Booking):** I identified a problem in my life when it came to booking train tickets for the journey to/from work. It was cheaper to book a ticket every day using my rail card than to buy a season ticket for my route. Instead of manually buying these tickets, which quickly become repetitive, I set about learning how to automate this task and created an automatic ticket booker in Python. It would automatically click through each web page to book my tickets for me, instead of me doing this by hand. I found the process to be very satisfying as I applied my problem-solving and programming skills to a real-life problem I had. I learned that I was able to use my skills as a software developer in exciting ways to improve my quality of life.
- **Arduino projects:** I am an avid enthusiast of Arduinos alongside other hardware for projects. It is interesting to know what is possible when it comes to using small electronics to accomplish tasks and to program for these. I have mainly been using an Arduino starter kit for this and find it to be very engaging and satisfying to build electronics projects.
- **Travelling:** I am always excited about travelling to new places. I have visited over 10 different countries across Europe, America, and Asia, and intend to visit many more. Seeing how people live in different parts of the world helps me to understand people better, and to broaden my worldview and become a more well-rounded person overall.
- **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.