Joe Barrett

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in joebarrett401

Education

Edinburgh Napier University	BEng(Hons) Software Engineering
2013–Present	*Predicted 1st*

1st year:

Information Systems in Organisations: 77% Merit	**Human Computer Interaction**: 67% Merit
Software Development 1: 97% Merit	**Computer Systems 1**: 77% Merit
Introduction to C++: 77% Merit	**Maths for Software Engineering**: 81% Merit

2nd year:

Software Development 2: 96% Merit	**Database Systems**: 70% Merit
Systems and Services: 58% Pass	**Software Engineering Methods**: 59% Pass
Physical Computing: 70% Merit	**Mobile Applications Development**: 82% Merit

3rd year:

Algorithms and Data Structures: 85% Merit	**Software Development 3**: 84% Merit
Software Engineering: 74% Merit	**Group Project**: 78% Merit
Fundamentals of Parallel Systems: 70% Merit	**Sensing Systems for Mobile Apps**: 88% Merit

4th Year:

Concurrent and Parallel Systems: In progress	**Management of Software Projects**: In progress
Honours Project: In progress	

Major Projects

Dissertation - Calculation of Mountain Bike Suspension Setup through Mobile Image Analysis:

- In Progress
- Use of image analysis and user supplied information to calculate optimal suspension settings
- Building mobile application for Android platform
- Using Open CV library image processing library
- Languages: Java, C++

Helmet Crash Sensor - Awarded 95%:

- Created helmet mounted device and accompanying Android application
- Detection of certain criteria signals a crash and sends SMS to emergency contact
- Use of 3D trigonometry to calculate orientation using accelerometer and gyroscope data
- Teensy 3.2 microcontroller used for control
- C++ used for embedded code

Mountain Bike Suspension Data Logger - Awarded 76% Device, 88% App:

- Device to capture suspension data and suggest changes to improve performance
- Used ultrasonic range sensor for measurement
- Data processing algorithms created to calculate adjustment
- Split between two modules

University of the Highlands and Islands	HNC Computing
2012–2013	*Pass*

Employment

Cadence Design Systems   **Intern**
May 2016–September 2016, Livingston
- Maintaining and adjusting performance tests for Virtuoso software
- Wrote performance testing suite in Python, including automated emailing, data analysis utilities, and automated debugging
- Notified engineers on failing tests and assisted in debugging
- Created performance tests to compare product platforms using Cadence's SKILL language
- Presented during internal confrence for interns and summary of work at end of internship

Edinburgh Napier University   **Student Demonstrator**
January 2016–May 2016

C&G Cycles   **Assistant Manager and Mechanic**
January 2014–January 2015, Edinburgh

Twelve50 Bikes   **Workshop Manager and Sales Assistant**
April 2011–June 2012 & May 2015–August 2015, Frodsham

Cheshire Oaks Cycles   **2nd Mechanic and Sales Assistant**
March 2010–April 2011, Ellesmere Port

Graham Weigh Cycles   **2nd Mechanic and Sales Assistant**
October 2007–June 2009, Queensferry

Skilled Training

Cycle Scotland   **Cycle Assistant Qualification**
April 2016, Edinburgh

Coed y Llandegla Courses   **CTC Trail Leader Qualification**
February 2011, North Wales

Whistler Blackcomb   **Instructor Development Programme Level 1&2**
August 2009, Whistler, Canada

Institute of Leadership and Management   **Level 3 Award**
August 2009, Whistler, Canada

Cycle Wales   **City and Guilds: Cycle Maintenance**
October 2007, North Wales

Skills Profile

Java: Classes, Multithreading, Patterns, Swing   **Python**: Lambdas, List Comprehension
C: Arduino Libraries   **C++**: Pointers, Threads, Memory Management
C#: Classes, WPF Applications, Linq   **Android**: App Lifecycle, Camera, Sensors
Bash/CSH: Automation Scripting   **Electronics**: Protocols, Circuits, Sensors
Command Line: Everyday usage   **Version Control**: Git, Perforce
Networks: Basic knowledge   **Hardware**: CPU Architecture, MOSFET