



Eoghan Hynes

MSc SOFTWARE ENGINEERING

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Summary

I am a current PhD candidate at AIT, researching Quality of Experience (QoE) of Augmented Reality (AR) based interfaces for procedure assistance and training in Industry 4.0. I graduated from a taught masters with first class honours in Software Engineering. I have 6+ years experience in C and C++ programming, 3+ years experience in C and Java programming specializing in Android app development, RESTful web service development using Play Framework with MySQL and MongoDB back end infrastructure and immersive environments using Unity3D™. I have experience with machine learning and statistics in R and Python, signal processing in MATLAB, statistical analysis in R, Python, SPSS and Excel and data visualization experience using D3, SPSS, Excel.

Education

Athlone Institute of Technology

Athlone, Co. Westmeath

PHD CANDIDATE, ONGOING.

Oct. 2018 - Jun. 2019

- Development of QoE evaluation system for AR using Unity 3D™, integrating an Empatica E4 wrist device for real-time physiological signal acquisition and OpenFace for real time automatic head pose data acquisition, including facial Action Units for emotional state evaluation.
- Subsequent frequency domain signals processing of physiological data using MATLAB.
- Subsequent paper write up and successful submission to the 12th international IEEE workshop on multimedia signals processing 2019.
- Supervisor for two successful MSc Software Engineering projects.
- Supervisor for three successful BSc Cloud Computing projects.
- Irish Research Council (IRC) funding application submitted for 2019 funding round.

Athlone Institute of Technology

Athlone, Co. Westmeath

MSC IN SOFTWARE ENGINEERING (TAUGHT)

Jan. 2017 - Jun. 2018 (Part-Time)

- First class honours. GPA 80.75%
- Database Systems: MySQL, MongoDB.
- Computer Networks and Telecommunications: TCP/IP, LTE.
- Service Oriented Architecture: SOAP, REST.
- Rich Internet Applications: Single page web application, backbone, bootstrap.
- Data Science: Machine Learning, R.
- Software Design: C# OOP patterns, factory, decorator, visitor, iterator. Haskell functional programming.
- Data Visualization: D3.
- Agile Build and Delivery: Multinational team project development using agile SCRUM methodologies, continuous integration deployment pipeline using Github repository and Travis CI for a Java EE web applicant. This was a web based GP clinical practice patient appointment and prescription management application.
- IoT Project: RESTful web service using play framework, Android mobile app and FitBit API, MySQL and MongoDB databases. Physiological thresholds including heart rate and sleep patterns were used to trigger SMS message to I.C.E contact containing GPS location data.

Honors & Awards

2018 **President Seed Fund Scholarship**, Interviewed for and successfully awarded A.I.T President Seed award

A.I.T, Athlone

2019 **DELFB2**, Diploma of French proficiency.

Alliance Francais,
Dublin

Publications

A Quality of Experience Evaluation of Augmented Reality for Visuomotor Task Assistance and Training in Industry 4.0.

A.I.T

POSTER

2018

- This poster has been used for more than 20 combined industry demonstrations and academic presentations.

A Quality of Experience Evaluation Comparing Augmented Reality and Paper Based Instruction for Complex Task Assistance.

Kuala Lumpur

CONFERENCE PAPER

2019

- 12th International IEEE workshop on multimedia signals processing.

ICBE Industry working group.

INDUSTRY DEMONSTRATION

- Exhibition of AR application developed in A.I.T.

Domoland Castle, Co. Clare

Nov. 2018

European Composites, Plastics and Polymer Processing Platform conference

EXHIBITION

- I exhibited execution of my AR application for assisted operation of the Fanuc injection moulding machine.

Hodson Bay, Athlone

Jul. 2018

Work Experience

Athlone Institue of Technology

LAB SUPERVISOR

- 'Agile build and Delivery' practical lab supervisor of 15 MSc Software students.
- Semester divided into 2 sprints.
- 3 teams of 5 used Java servlets to create web applications for movie rentals, holiday bookings and online shopping services.
- Teams used web repositories with continuous integration pipelines.
- Team member nationalities included Chinese, Indian, Polish and Irish
- All team members successfully passed this module under my supervision.

Athlone, Co. Westmeath

Sept-Dec 2018

Athlone Institue of Technology

PROJECT SUPERVISOR

- Two successful MSc projects:
- Book Recommendation web service using Play framework and Android mobile app.
- Activity prediction application using R shiny server and mobile phone accelerometer data.
- Three BSc projects:
- Community alert web service using mobile app, server and web SMS api. Distinction.
- IOT smart fridge using digital weighing scales and 'Tesco' web api. Pass.
- Delivery web service using server, database, mobile phone, and SMS api. Fail due to plagiarism.

Athlone, Co. Westmeath

Sept-June 2018-2019

Tullamore Steel

PARTNER

- Deployment test end users of Europe wide role out of IOS front end mobile application for 'Air Products Inc.' SAP system.
- Air Products Inc. SAP web tool power user, customer services, customer accounts, customer conflict resolution.
- Key and cash holder, accounting, invoicing, statements.
- Product delivery, stock management, pricing.

Tullamore, Co. Offaly

Jul. 2002 - 2018

Extracurricular Activity

Data Science Club

DATA SCIENCE AND ENGINEERING

- I delivered a machine learning tutorial in R to a full house of academics and industry specialists.
- Topics included KNN and Decision Tree classification Linear Regression predictions.
- I partake in deep learning and data engineering workshops.

Trinity College

2018

Irish Reserve Defence Forces

N.C.O, RANK: CORPORAL

- Team leadership and communications skills.

Athlone, Co. Westmeath

Jun. 2005 - 2008

Newtonards Aerodrome

STUDENT PILOT

- Completed 4 hours dual training on flex wing microlight.
- Passed the Air Law exam.

Newtonards, Co. Down

2018

Irish Water Safety

QUALIFIED LIFE GUARD

- Completed Irish Water Safety Lifeguard training.

Tullmore, Co. Offaly

1998