James Hanratty

35/3 Marchmont Crescent EH9 1HQ, UK
Edinburgh, Scotland

Cellphone Number: 07411387773
Personal E-Mail: j.hanratty98@gmail.com

Education

- University of Edinburgh, Edinburgh, Scotland 2016 - 2021

Electronics and Computer Science, currently 3rd Year – Predicted: **First**

- Musselburgh Grammar School, Musselburgh, Scotland 2010 - 2016

High School Advanced Highers: Mathematics, Physics, Engineering Science

Relevant Skills

Programming Knowledge: Java, Verilog, C, MIPS Assembly, MATLAB, SQL, PHP ,MQL5.

Degree Related Knowledge: Experience with Analogue & Digital Circuits such as NPN & MOSFETS, Data Collection and Analysis; Android Studio; Machine Learning, FPGA, Software Modelling Techniques, LT Spice, Back End Servers, Software/Hardware Testing.

Activities and Projects

2018: Creating a Home Security package:

- Learning to program Arduino and connect it to libraries which use RFID technology, giving me experience in working and understanding other people's projects and how to work with them.
- Learning about Proximity Sensors and how to connect them to an Arduino and Raspberry pi, allowing me to exercise my analogue electronic knowledge and connecting different electronic systems together.

2018: Project leader for Deep Neural Network software designed to Trade the Forex Market:

- Learnt new trading strategies, how different trading markets work, a completely new programming language, thus improving my researching skills.
- Performed different types of tests such as back-end and stress.
- Integrating Machine learning techniques with trading strategies to optimise profit, improving mathematical skills.

2016 - 2018: Created Software for an operational till register and combined it's use with an Android App:

- Learnt Java Swing and GUI interface, Furthered my understanding of OOP.
- Connecting the desktop and android application to a backend server to relay information to one another.

Work Experience

University of Edinburgh, Edinburgh, Scotland January 2018 to September 2018

Lecture Capture Assistant

- Working in a team of fellow likeminded Engineers.
- Responsible for uploading the edited lectures on time with all relevant information included.
- Created summaries for lectures based on Signals and Communications.

Demonstrated I am a reliable and Trustworthy person to work with because another co-worker and I took charge of the project. Also improved my time management skills due to the flexible hours of the job.

Kings Manor Hotel, 100 Milton Road East Edinburgh, EH15 2NP, Scotland

Waiting Staff October 2015 to July 2016

- Worked on the till, handling money and communicating with customers.
- Never called in sick or missed a day of work.
- Working between different departments in the hotel, exercising different skills and working in a flexible environment

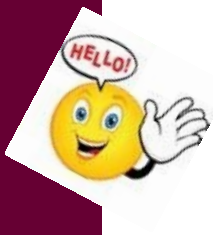
Demonstrated Excellent Teamwork skills in a busy environment, such as an ability to listen to customers and managers, perform my role to a high level and support colleagues.

References

Robert Millar, *Manager* – dutymanager@Kingsmanor.com

Javier Escudero, *Academic Advisor* - Javier.Escudero@ed.ac.uk

Children's Menu



Starter

Chef's Soup of the Day £1.75

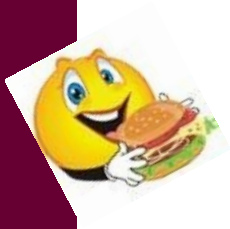
Heinz Tomato Soup £1.75

Grilled Chicken Skewers £2.95
with hoi sin sauce

Melon Cocktail £2.25
with fruit sorbet

Main Course

Beef Lasagne £4.25
with garlic bread



Golden Chicken Nuggets £3.95
with fries & side salad

Nachos £2.95
with melted cheese, salsa, & crème fraiche

Fish Fingers £4.45
with fries & side salad

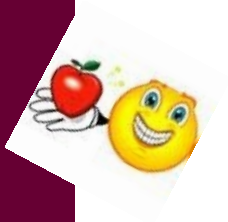
Cheese & Tomato Pizza £3.95
with fries & side salad

Beans on Toast £2.85

Dessert

Strawberry Sundae £2.65
strawberries, strawberry ice cream, marshmallows & chocolate sauce

Mana Banana Split £2.65
banana, vanilla ice cream, marshmallows, whipped cream & raspberry sauce



Sticky Toffee Pudding £2.65
with ice cream

2 Balls Ice Cream £2.65

Children are welcome to choose from the main menu.
We will be happy to provide half portions where possible or adapt a dish to their liking

Cover Letter

Dear Hiring manager,

I am currently in my third year at Edinburgh University studying MEng Electronics and Computer Science. I am applying for a chance to do my Master Project with your company after attending a presentation you gave where you outlined many of the projects you work on which I find interesting.

My interest in your organisation stems from the production and design of chips that are implemented in medical to consumer products. From the talk you gave, I really enjoyed the idea of creating and engineering custom designed chips that are optimised for their use, rather than creating chips made for having a broad range of applications. I have a keen interest in expanding my knowledge and skills in these areas and working on them would benefit me greatly. I have seen the products you design and think they are of really good quality and have been engineered and optimised incredibly well and would love for that experience and skill to be taught to me through your exceptional training scheme as I am always looking to become a more efficient and productive engineer broadening my skills.

The job particularly appeals to me because I love the idea of researching and designing cutting edge technology and optimising my designs to get the minimal costs. I also like the idea of working closely with clientele to give them a unique and rewarding experience. In optimizing circuits and designs, comes solving hard problems that I will enjoy tackling and taking steps to breaking it down. Then working on solving the smaller problems until eventually I can combine all working parts together and test it. I have experience of this where I set myself a big challenge at first, such as creating a Cash Till Register or Trading Strategies with Machine Learning. Researching parts of the project I don't know much about such as working with back end servers, creating android apps. Then taking each separate part and completing this until eventually I combine everything and test it.

In doing many projects over the years I have a lot of experience in researching into new ideas and techniques from learning new programming languages, why certain algorithms are more efficient mathematically, how trading markets work and what the pros and cons are of certain trading strategies. To how to keep a consistent coding standard and keep my ideas clear and concise for other members to understand and use. All the experience gained allows me to work efficiently, independently and maintain a professional attitude when working on a difficult task in a pressured environment.

I would be happy to talk about the opportunities your company gives for internships and I am looking forward to hearing from you and would love to receive an interview.

Yours sincerely,

James Hanratty

Higher Education Achievement Report

Information identifying the holder of the qualification

Full Name: James Hanratty
Date of Birth: 18 February 1998
Matric / HUSID Number: S1645821 / 1611670146395
(HUSID (HESA Unique Student Identifier) is the unique identifying number for students registered at a UK university. It is defined by the UK's Higher Education Statistics Agency)

Information identifying the qualification

The qualification has not yet been awarded, the student is studying Electronics and Computer Science (MEng Hons)

(The power to award degrees is regulated by law in the UK.)

Main field(s) of study for the qualification: Electronics and Computer Science
Name and status of awarding institution: The University of Edinburgh
(The University of Edinburgh is a recognised body granted powers by the Privy Council to award degrees.)

Language(s) of instruction/examination: English

Information on the level of the qualification

Official length of programme: 5 Years
Access requirement(s): Detailed information regarding admission to the programme is available in the University's Prospectus

Information on the contents and results gained

Mode of study: Full-time
Programme requirements: Information not available. Please contact relevant School using the details in 'Further Information Sources'

Further Information Sources

Further information sources: http://www.see.ed.ac.uk/drupal Any enquiries regarding the above should be addressed to: Engineering and Electronics Teaching Organisation, Faraday Building, King's Buildings, Mayfield Road, EH9 3JL; Tele: +44 (0) 131 650 5687; Web: http://www.see.ed.ac.uk/;email: eetoall@eng.ed.ac.uk
Further information regarding the University of Edinburgh HEAR: http://www.ed.ac.uk/schools-departments/student-administration/other-info/overview

JAMES HANRATTY S1645821 Date Produced: 18/10/2018

Programme details, and the individual grades/marks/credits obtained

Programme Start Date: 19 September 2016

This is an interim transcript, the student is currently studying Electronics and Computer Science (MEng Hons)

Academic Year	Code	Name	Mark	Grade	Result	SCQF Level	No. of attempts	Credits Achieved*
2016/17	ELEE08001	Electrical Engineering 1	80	A2	P	08	1	20
2016/17	INFR08012	Informatics 1 – Computation and Logic	88	A2	P	08	1	10
2016/17	INFR08013	Informatics 1 – Functional Programming	79	A3	P	08	1	10
2016/17	INFR08014	Informatics 1 – Object-Oriented Programming	77	A3	P	08	2	10
2016/17	INFR08015	Informatics 1 – Data and Analysis	79	A3	P	08	1	10
2016/17	MATH08074	Engineering Mathematics 1a	64	B	P	08	1	20
2016/17	MATH08075	Engineering Mathematics 1b	81	A2	P	08	1	20
2016/17	SCEE08001	Engineering 1	74	A3	P	08	1	20
								Sub Total: 120
2017/18	ELEE08015	Digital System Design 2	72	A3	P	08	1	10
2017/18	ELEE08016	Analogue Circuits 2	82	A2	P	08	1	10
2017/18	ELEE08018	Electronics Project Laboratory 2C	70	A3	P	08	1	10
2017/18	ELEE08020	Microelectronics 2	67	B	P	08	1	10
2017/18	INFR08009	Informatics 2B – Algorithms, Data Structures, Learning	73	A3	P	08	1	20
2017/18	INFR08018	Informatics 2C – Introduction to Computer Systems	82	A2	P	08	1	10
2017/18	INFR08019	Informatics 2C – Introduction to Software Engineering	61	B	P	08	1	10
2017/18	MATH08066	Probability	59	C	P	08	1	10
2017/18	SCEE08007	Signals and Communication Systems 2	78	A3	P	08	1	10
2017/18	SCEE08009	Engineering Mathematics 2A	83	A2	P	08	1	10
2017/18	SCEE08010	Engineering Mathematics 2B	62	B	P	08	1	10
								Sub Total: 120
		* 1 European Credit Transfer Scheme (ECTS) credit = 2 University of Edinburgh credits						Total: 240

Additional Information

Prizes and Medals: None awarded

Additional Recognised Activities: None recorded

Additional Notes: None recorded

Certification:

Lisa Dawson, Head of Student Administration Services

Grading Scheme

Grade Expectations: http://www.studentsystems.ed.ac.uk/staff/FAQ/assessment_results.html
Grades followed by 'A' = Fail (Credits Awarded on Aggregation)
Grades 'ES' and 'PS' = fail result of 38 or 39 but pass and credits awarded due to special circumstances
Grade CD = Course delivery disrupted, awarded on aggregate

Common Marking Scheme from 2005/2006

With effect from Academic Session 2005/2006, the marking scheme for undergraduate degree examinations in all Schools is as follows, except for the Royal (Dick) School of Veterinary Studies and the M.B.,Ch.B. curriculum in the College of Medicine and Veterinary Medicine.

HONOURS		NON HONOURS	
Honours Class	Mark (%)	Grade	Description
I	90-100	A1	Excellent
I	80-89	A2	Excellent
I	70-79	A3	Excellent
II.1	60-69	B	Very Good
II.2	50-59	C	Performance at a level showing the potential to achieve at least a lower second class honours degree
III	40-49	D	Pass, may not be sufficient for progression to an honours programme
Fail	30-39	E	Marginal Fail
Fail	20-29	F	Clear Fail
Fail	10-19	G	Bad Fail
Fail	0-9	H	Bad Fail

Bachelor of Veterinary Medicine and Surgery (BVMS), Royal (Dick) School of Veterinary Studies

70-100 = A (Excellent); 60-69 = B (Very Good); 55-59 = C (Good); 50-54 = D (Satisfactory); 46-49= E (Marginal Fail); 35-45= F (Clear Fail); 0-34 = G (Bad Fail)

BVMS is a Masters level degree and is not classified into any other GPA or similar system. Due to differences in examining systems, it is rare for students to receive a mark greater than 80% with 70% or greater equating to a distinction.

Postgraduate Extended Common Marking Scheme (with effect from Academic Session 2005/2006)

Mark (%)	Grade	Description
90-100	A1	An excellent performance, satisfactory for a distinction
80-89	A2	An excellent performance, satisfactory for a distinction
70-79	A3	An excellent performance, satisfactory for a distinction
60-69	B	A very good performance
50-59	C	A good performance, satisfactory for a master's degree
40-49*	D	A satisfactory performance for the diploma, but inadequate for a master's degree
30-39**	E	Marginal Fail***
20-29	F	Clear Fail***
10-19	G	Bad Fail ***
0-9	H	Bad Fail***

* Assessment of the dissertation: A mark of 47-49 may be used to denote the possibility that by minor revision the work may be upgraded to a Masters standard.
** Assessment of the dissertation: A mark of 37-39 may be used to denote the possibility that by minor revision the work may be upgraded to a diploma standard.
*** Assessment of the dissertation: In those programmes where a diploma may be awarded for the taught component only, a failed dissertation may be put aside for the diploma.

Information on the National Higher Education System

Description of Higher Education in Scotland

Scotland's distinctive higher education system has 20 higher education institutions (HEIs). The 14 Universities, the Open University in Scotland, 2 colleges of higher education, 2 art schools and a conservatoire are part-funded for research, teaching and learning through the Scottish Funding Council.

The HEIs are independent, self-governing bodies, active in teaching, research and scholarship. They decide the degrees they offer; the conditions on which they are awarded and the admissions arrangements. Degrees and other higher education qualifications are legally owned by the awarding institution, not by the state. The HEIs offer qualifications at undergraduate (Bologna first cycle) and postgraduate (Bologna second and third cycle) levels. In Scotland, the law distinguishes the power to award degrees on the basis of completion of taught programmes from the power to award research degrees. Universities have powers to award taught and research degrees. Some other HEIs have powers to award degrees while others offer programmes leading to degrees awarded by HEIs with degree powers.

Lists of institutions with powers toward degrees and institutions recognised by authorities in Scotland as being able to offer courses leading to a degree of another HEI may be found at (http://www.univsities-scotland.ac.uk). A small number of degrees are available in colleges of further education by the authority of a duly empowered HEI.

Qualifications

The types of qualification awarded at the undergraduate (first cycle) and postgraduate level (second and third cycles) in Scotland are described in the Framework for Higher Education qualifications in Scotland which includes qualifications descriptors, developed with the higher education sector (http://www.qaa.ac.uk). The Framework is an integral part of a wider national framework: the Scottish Credit and Qualifications Framework that covers all forms of programmes and qualifications from School to Doctorates (see table 1 and http://www.scqf.org.uk). Institutions use SCQF credit points for students entering or transferring between programmes or institutions, and use ECTS for transfers within the European area.

Admission

Requirements for particular programmes are set by the HEIs which offer a range of routes for entry and/or credit transfer into their programmes, and admit students whom they believe have the potential to complete their programmes successfully. The Open University is an open entry institution. The most common qualification for entry to higher education is the Higher or Advanced Higher or, for entrants from the rest of the U.K., the General Certificate of Education at 'Advanced' level (including the "advanced supplementary") or comparable qualifications. Four or five Highers are normally taken in the 5th and 6th year of secondary school or at college or further education and studied in considerable depth, involving coursework and final examinations. Advanced Highers are taken in the 6th year. A major route into Degrees, often with transfer of credit, is the higher National Qualifications offered in colleges or further education.

Quality Assurance

Standards of qualification and the quality of the student learning experience are maintained by the HEIs using a range of processes including extensive use of external examiners. In some subject areas, Professional and Statuary Bodies have a role to ensure that programmes meet the needs and standards of the particular profession. HEIs in Scotland demonstrate their public accountability for quality and standards through a national quality and standards through a national quality assurance framework that has a strong focus on enhancement as follows: HEIs take account of a QAA published U.K.-wide code of practice for quality assurance, and U.K. subject level 'benchmark' statements on standards (see http://www.qaa.ac.uk). Subject level issues are addressed by HEIs internal reviews conducted in accordance with guidance issued by the Scottish Funding Council (SHEFC)(see http://www.scf.ac.uk). External reviews are conducted by the Quality Assurance Agency for Higher Education in Scotland (QAA). The Agency is an independent body established to provide public confidence in the quality and standards of higher education. It involves students in its quality enhancement activities. The Agency publishes reports on the outcomes of reviews and the confidence that can be placed in the HEIs' arrangements for assuring and enhancing standards and quality, and for ensuring that they provide public information that is complete, accurate and fair (see http://www.qaa.ac.uk). A national development service supports students in their role as active participants in assuring and enhancing quality and standards (see http://www.sparqs.org.uk).

Table 1: The Scottish Credit and Qualifications Framework (SCQF)

The SCQF covers all the major qualifications in Scotland from school to Doctorate and including work based Scottish Vocational Qualifications (SVQs)

SCQF Level	Qualifications of Higher Education Institutions	SQA Higher National and National Units, Courses and Group Awards	SVQs
12	Doctoral Degrees (Minimum 540 SCQF credits)	-	-
11	Masters Degrees (Minimum 180 SCQF credits) Postgraduate Diploma (Minimum 120 SCQF credits) Integrated Masters Degrees (Minimum 600 SCQF credits)	-	SVQ 5
10	Bachelors Degree with Honours (Minimum 480 SCQF credits) Graduate Diplomas and Certificates	-	-
9	Bachelors Degree (Minimum 360 SCQF credit) Graduate Diplomas and Certificates	-	-
8	Diploma of Higher Education (Minimum 240 SCQF credits)	Higher National Diploma	SVQ 4
7	Certificate of Higher Education (Minimum 120 SCQF credits)	Advanced Higher Higher National Certificate	-
6	-	Higher	SVQ 3
5	-	Intermediate 2 Credit Standard Grade	SVQ 2
4	-	Intermediate 1 General Standard Grade	SVQ 1
3	-	Access 3 Foundation Standard Grade	-
2	-	Access 2	-
1	-	Access 1	-

Notes

1. SCQF levels represent increasing complexity and demand in learning outcome.
2. One credit represents the outcomes achievable by the average through 10 notional hours of learner effort. In general terms, one full-time undergraduate year is considered to be 120 credits worth of learning. A postgraduate year is 180 credits. 1 ECTS credit is deemed equivalent to 2 SCQF credits. Research degrees - Master of Philosophy (MPhil) and Doctor of Philosophy (PhD) are not credit rated.
3. Graduate Certificates (minimum of 60 SCQF credits) and Graduate Diplomas (minimum of 120 credits) are offered at levels 9 and 10 within the SCQF framework. They are offered for programmes that are for graduates but do not have outcomes that are at postgraduate level.
4. The Bachelors Degree (level 9) leads to employment and in some instances can give access to postgraduate study particularly when accompanied by relevant work or professional experience.
5. At Postgraduate levels, the framework and the higher education qualifications are the same as those for the rest of the UK. The Honours Degree levels of the frameworks are considered to be in broad alignment (the Honours Degree in Scotland normally takes 4 years and that in the rest of the UK takes 3 years). Below Honours level the frameworks reflect the different educational structures of Scotland and the rest of the UK.
6. Scotland has a distinctive higher education system and also operates under a devolved government, including for higher education. There is a separate Description of Higher Education in England, Wales and Northern Ireland where the system is different to that of Scotland.
7. This national description is endorsed by the Quality Working Group which is a national committee with members from The Quality Assurance Agency for Higher Education, Scotland; The Scottish Funding Council; Universities Scotland and the National Union of Students in Scotland.

Description of the University of Edinburgh

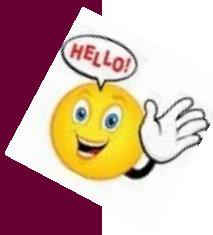
The University of Edinburgh was founded in 1583, and has 22 Schools in 3 Colleges: Humanities and Social Science, Medicine and Veterinary Medicine and Science and Engineering. It offers more than 300 degree programmes to its approximately 29,000 students. It is one of around a hundred universities in the United Kingdom and of 14 in Scotland. Higher Education, including universities, within Scotland is the responsibility of the Scottish Parliament, which has powers devolved from the U.K. Parliament.

The University is an independent, self-governing body that is active in both teaching and research. Its mission is the advancement and dissemination of knowledge and understanding. (See http://www.planning.ed.ac.uk/Strategic_Planning/MissionStatement.htm for fuller details of the University's mission and plan). Like all universities in the UK, its degrees are its own responsibility, not that of the State. The University is funded from a variety of sources, including a block grant from the Scottish government, academic fees, research grants, and other sources.

About 4,500 students graduate every year with a Bachelors degree with honours and after four-years of study. For long-standing historical reasons, many degrees at this level in humanities subjects are designated Master of Arts. There are also some "undergraduate masters degrees" in science subjects that require five years of study and take students to a postgraduate level of achievement without their having achieved an intermediate bachelors degree. The outcome of these honours degrees is quoted in terms of the "classification" of the degree: first (the highest), upper second, lower second, or third. Some students graduate with a non-honours "ordinary" degree. which is not classified, although a transcript showing their marks is available. This system is common to all the universities in the UK.

About 2,000 students each year graduate with postgraduate degrees, generally designated as Master or Doctor. These degrees are not classified.

Children's Menu



Starter

Chef's Soup of the Day £1.75

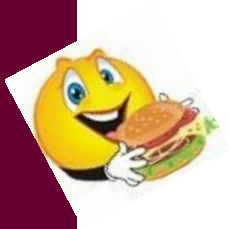
Heinz Tomato Soup £1.75

Grilled Chicken Skewers £2.95
with hoi sin sauce

Melon Cocktail £2.25
with fruit sorbet

Main Course

Beef Lasagne £4.25
with garlic bread



Golden Chicken Nuggets £3.95
with fries & side salad

Nachos £2.95
with melted cheese, salsa, & crème fraiche

Fish Fingers £4.45
with fries & side salad

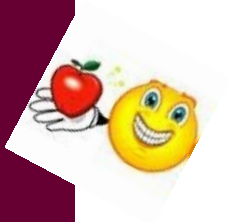
Cheese & Tomato Pizza £3.95
with fries & side salad

Beans on Toast £2.85

Dessert

Strawberry Sundae £2.65
strawberries, strawberry ice cream, marshmallows & chocolate sauce

Mana Banana Split £2.65
banana, vanilla ice cream, marshmallows, whipped cream & raspberry sauce



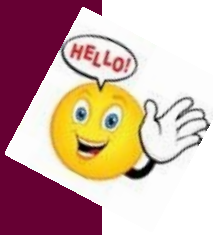
Sticky Toffee Pudding £2.65
with ice cream

2 Balls Ice Cream £2.65

Children are welcome to choose from the main menu.
We will be happy to provide half portions where possible or adapt a dish to their liking

A document describing the similar systems in the rest of the UK is also available (see http://www.uknec.org.uk/documents/ds_description.pdf).

Children's Menu



Starter

Chef's Soup of the Day £1.75

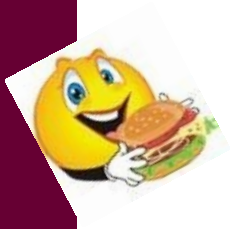
Heinz Tomato Soup £1.75

Grilled Chicken Skewers £2.95
with hoi sin sauce

Melon Cocktail £2.25
with fruit sorbet

Main Course

Beef Lasagne £4.25
with garlic bread



Golden Chicken Nuggets £3.95
with fries & side salad

Nachos £2.95
with melted cheese, salsa, & crème fraiche

Fish Fingers £4.45
with fries & side salad

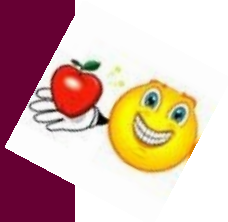
Cheese & Tomato Pizza £3.95
with fries & side salad

Beans on Toast £2.85

Dessert

Strawberry Sundae £2.65
strawberries, strawberry ice cream, marshmallows & chocolate sauce

Mana Banana Split £2.65
banana, vanilla ice cream, marshmallows, whipped cream & raspberry sauce



Sticky Toffee Pudding £2.65
with ice cream

2 Balls Ice Cream £2.65

Children are welcome to choose from the main menu.
We will be happy to provide half portions where possible or adapt a dish to their liking