

# FRANCESCO M. FERRARI, Computer Science Dept.

+44 7476 620620 | francesco.ferrari.11@alumni.ucl.ac.uk  
[www.ferrarifrancesco.co](http://www.ferrarifrancesco.co) | [uk.linkedin.com/in/fmferrari/en](https://uk.linkedin.com/in/fmferrari/en) | [github.com/fraferra](https://github.com/fraferra)

## EMPLOYMENT

**Software Engineer at Swiftkey** (full-time), London, UK Aug 2015 – Present

- Working in the Data Insights team on big data
- Using Apache Spark to process users' language models stored on cloud
- Worked on sentiment classifiers, topic modelling analysis, language patterns recognition, word2vec models and recurrent neural networks for emoji predictions.

**Software Engineer at Cisco** (part-time), remote worker Sep 2014 – June 2015

- Worked on the integration of different Cisco products APIs, as full-stack developer for demos and proofs of concept.
- Maintained existing web apps that I previously created during my internship.
- Improved searchability of Cisco research papers by building a Solr server and web crawler.

**Software Engineering Intern at Cisco** (full time), San Jose, CA Aug 2013 – Jul 2014

- Worked as a full-stack developer and developed four web apps using Django - all subdomains of cisco.com: dev-innovate.cisco.com, techfundfinance.cisco.com, ciip.cisco.com, research.cisco.com
- Improved business and strategy skills while working with the senior director of Strategy and Planning.
- Built first public platform using new Cisco cloud technology running on top of Openstack
- Was exposed to high level projects (one of my apps was presented during one of the executive keynotes at the Cisco Live SF 2014 conference; ~25k attendees)
- Improved team working skills by applying the concept of Scrum meetings and Agile development

## EDUCATION AND QUALIFICATIONS

**University College London**, London, UK Sep 2011 – Jun 2015

BEng Electronic and Electrical Engineering

- Awarded: First Class Honours (84% average - Top student of the EEE dept.)
- Modules: Supervised Learning, Reinforcement Learning, Kernel Methods, Objected-Oriented Programming, Research Methods for Supervised Learning, Linear Algebra, Optoelectronics, Digital Design, Electronic Circuits, Control Systems, Digital Signal Processing, Optoelectronics, etc.

**London School of Economics**, London, UK Jul 2012 – Aug 2012

Intensive course in Business and Strategic Management

**Liceo Scientifico G. Gandini**, Lodi, Italy Sep 2006 – Jun 2011

- High School Diploma: Esame di Stato (final exam): 100/100
- Physics A\*, Mathematics A\*, English A\*, Philosophy A\*, Chemistry A\*, Biology A, History A, Italian Literature A, Latin Literature A, History of Art A

**Wyandotte High School** (year abroad), Oklahoma, USA Sep 2009 – Jun 2010

- High School Diploma: Algebra A, Physics A, History A, Spanish A, Psychology A, Literature A
- Was awarded prize for outstanding academic achievements

## RESEARCH AND PROJECTS

**3D Tracking Behaviour Recognition for Pedestrians**, UCL, London 2014-2015

- Final year undergraduate thesis. Research was commissioned by a private company.
- Worked on behavioural pattern recognition by analysing pedestrians' indoor trajectories recorded using a Wi-Fi antenna
- Several techniques were tried however the most successful one was the application of a feature map designed by myself, together with a multi-class support vector machine.

**Policy Learning For BlackJack**, UCL, London 2015

- Project done for master-level course 'Advanced Methods in Machine Learning'
- The goal was to find an optimum policy for the game of BlackJack
- Several reinforcement learning algorithms developed: Monte Carlo control, Temporal Difference learning and Linear Function Approximation
- Implemented in a multi-agent environment where other agent is card dealer

**Recurrent Neural Network for Text-to-Emoji Translation**, Swiftkey, London 2015

- Project done during an internal hackathon at Swiftkey
- Model trained using Swiftkey's users' language data
- Tested it on emoji prediction (+70% accuracy) and text-to-emoji translation

- Project done for master-level course 'Supervised Learning'
- The goal was to recognise hand-written digits
- Developed a multi-class perceptron model

## PROGRAMMING SKILLS

---

- **Python**, Advanced: main programming language used at Cisco, PlayCity (personal project) and Swiftkey
- **Apache Spark**, Advanced: Part of my daily job at Swiftkey
- **Java**, Intermediate: Followed two modules at university.
- **MatLab and Mathematica**, Intermediate
- **Web frameworks**: Django (Advanced) and Flask (Intermediate).
- **Databases**: PostgreSQL (Beginner)
- **Front End**: HTML5(Advanced), CSS3(Intermediate), Javascript(Beginner)
- **API**: Experience with Facebook, Linkedin and Twitter APIs. Built APIs in Python for PlayCity's mobile app.
- **Linux**: Experience in setting up servers on Linux VMs.
- **Others**: Solr (Intermediate)

## ACHIEVEMENTS AND AWARDS

---

- **Skynet Award**, Swiftkey, London 2015: Internal company award for results obtained in text-to-emoji translation and emoji prediction during a week-long hackaton.
- **The IET Prize**, The Institution of Engineering and Technology, London 2015: Awarded for best academic performance in both the MEng and BEng degree courses in the EE dept. at UCL.
- **Member of the UCL Dean's List**, UCL, London 2015: Awarded for outstanding academic achievement
- **The Rank Taylor Hobson Prize**, UCL, London 2015: Awarded for the best project of the year in the EE dept. at UCL.
- **1<sup>st</sup> Prize Winner of Hack Palo Alto Competition**, Palo Alto, California, 2014: Awarded for the best app aimed at increasing civic engagement out of 74 participating teams. [Forbes article](#)
- **Honourable Mention at San Francisco's Startup Weekend**, San Francisco 2013
- **1<sup>st</sup> Prize Winner in the Physics Olympiads Award**, Lodi Province, Italy, 2011
- **Member of the Mensa Society**, 2008-2012
- **Member of the Oklahoma Honour Society**, OK 2010: Awarded for outstanding academic achievements

## POSITIONS OF RESPONSIBILITY

---

- CEO and Founder of PlayCity, Inc.** [www.playpaloalto.com](http://www.playpaloalto.com) Feb 2014 – Aug 2015
- PlayCity is a social platform that aims to increase the level of civic engagement involving local businesses, charities and residents.
  - Took care of customer relations with several stakeholders (charities, city manager of Palo Alto, CIO of Palo Alto, law firm)
  - Built the whole web app (back-end and most of the front-end) using Django
  - Built APIs written in Python for the mobile app
  - Improved leadership skills by managing the other team members using Agile and Scrum

### Co-Founder and President of The Engineering Pipeline, 2012

A social enterprise that promotes Electronic Engineering in high schools in the UK.

### UCL Mentor, 2012-2013 (paid)

Mentored a group of fifteen first year students during my second year at university. Assisted them academically, as well as on a personal level, helping them settle in their new environment

### School Representative, 2010-2011

Successfully served as student voice between the school and the province of Lodi, Italy, and promoted initiatives and campaigns for social awareness

### Science Club President, 2009 – 2010

Served as Science club president and promoted initiatives such as educational trips

### Class Representative, 2007 – 2008

Developed communication skills by representing the liaison between the faculty and the students.

## OTHER SKILLS AND INTERESTS

---

**Languages**: Italian (native), English (fluent), Spanish (intermediate), Mandarin (beginner)

**Volunteering**: Special Olympics, Lodi, Italy (2008 & 2011)

**Sports**: Fencing, Running

**Hobbies and interests**: machine learning, web development, hackathons, traveling, music festivals, sailing.