

JUAN QUIROZ

juancq@gmail.com • +1 7754534434 • 2 Ellsworth Ave, Apt. 10, Cambridge, MA 02139, USA

Github: <https://juancq.github.io> • LinkedIn: <https://www.linkedin.com/in/juancquiroz/>

CAREER PROFILE

Data scientist with experience on applied machine learning to analyze data for physical activity recognition from smartphone accelerometer data, inferring emotions from smart watch accelerometer data, time-series analysis of motor current for detecting motor failure, and natural language processing and clustering of text. Python and Java programming experience from implementing machine learning projects and teaching programming classes at the undergraduate level. Strong written and verbal communication skills from teaching university courses, research conference presentations, and writing of research publications and patent applications.

WORK EXPERIENCE

- | | | |
|--|---|------------------------------|
| Sep 2017 – Present | VISITING RESEARCHER | Harvard University (USA) |
| <ul style="list-style-type: none">○ Research focus on natural language processing (NLP) of LaTeX documents.○ Implemented a bag-of-words model and clustering of LaTeX documents and Python SymPy expressions. | | |
| Aug 2014 – Aug 2017 | LECTURER | Sunway University (Malaysia) |
| <ul style="list-style-type: none">○ Taught courses on Problem Solving, Programming Principles (Python), and Concurrent Programming (Java).○ Implemented the data preprocessing, feature extraction, and building of supervised models for inferring an individual's emotion from smart watch accelerometer data (Python).○ Developed a Tizen smart watch app for collecting accelerometer and gyroscope data (JavaScript).○ Built supervised learning models for physical activity recognition from smartphone accelerometer data.○ Implemented the feature extraction and building of supervised models for classifying a motor current time-series for detecting motor faults (Python).○ Developed a Python Flask web application for generating perturbations of 3D models using genetic algorithms. | | |
| Jan 2017 – Mar 2017 | VISITING RESEARCHER | Harvard University (USA) |
| <ul style="list-style-type: none">○ Implemented a Python Flask web application for clustering LaTeX solutions to machine learning assignments for rapid assessment. The implementation used MongoDB for the database.○ Implemented a Python Autograd gradient descent optimization to calculate solution to solution similarity. | | |
| Jun 2012 – July 2014 | PATENT AGENT/PROGRAMMER | Independent Contractor |
| <ul style="list-style-type: none">○ Prepared over 10 patent applications and responses to over 40 office actions issued by the USPTO.○ Developed Android application to track driving times between two points (Java/PHP/MongoDB). | | |
| Jan 2009 – Mar 2012 | INTELLECTUAL PROPERTY SPECIALIST | SilverSky Group LLC (USA) |
| <ul style="list-style-type: none">○ Drafted over 50 patent applications directed to inventions in machine learning, software, online advertising, location tracking and management, antenna design, cryogenic devices, medical devices, and networks/telecommunications testing.○ Prepared responses to over 100 office actions issued by the USPTO or by foreign patent offices.○ Conducted inventor disclosure meetings to identify and evaluate the patentability of innovations. | | |

Aug 2005 – May 2009 **RESEARCH ASSISTANT** University of Nevada, Reno (USA)

- Implemented a genetic algorithm (Python/Ogre3D) for generating 3D model perturbations.
- Implemented an interactive genetic algorithm (Python) for generating floorplans.
- Implemented the UI for a naval simulation system (Python/C++) used for training navy officers.

Jun 2007 – Aug 2007 **SUMMER SCHOLAR** Joint Genome Institute (USA)

- Implemented F# neuro-evolution algorithm for identifying promoter regions in bacterial DNA.
- Trained and tested supervised learning models with Weka.

EDUCATION

2010 **University of Nevada, Reno, USA**
PhD in Computer Science and Engineering

2007 **University of Nevada, Reno, USA**
MS in Computer Science

2005 **University of Nevada, Reno, USA**
BS in Mathematics and Computer Science

SKILLS

Programming Languages

- Most experienced with Python and Java.
- Prior experience with JavaScript, C++, PHP, and F#.

Intellectual Property

- Registered patent agent with the United States Patent and Trademark Office (USPTO).
- Patent preparation and patent prosecution.