

Justin Richards

Full-stack Web Developer, Data Scientist, and Educator

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EDUCATION

May 2014

The Graduate Center at the City University of New York

Master of Arts in Computational Linguistics

- **Areas of Focus:** speech, semantic role labeling, and machine learning
- **Natural language Processing Seminar:** student chair

Publications (co-author)

- *Let Me Finish: Automatic Conflict Detection Using Speaker Overlap.*
- *Using Word-Burst Analysis to Rescore Keyword Search in Low Resource Languages*
- *Strategies for Rescoring Keyword Search Results Using Word-Burst and Acoustic Features*

May 2007

University of Florida: Bachelors of Science

- **B.S. in Journalism, minor in English (GPA 3.5)**

EXPERIENCE

**June 2015-
June 2017**

THE IRON YARD – Houston, TX

Designed and implemented a curriculum for web development with JavaScript.

Front-end Engineering Instructor

- **Taught a 12-week, full-time immersive course in client- and server-side web application development for enrollees with no prior experience.**
- **Designed long-term pedagogical strategies as well as daily activities and assignments; improve and expanded the course material with every cohort.**
- **Project-managed teams of up to 19 new developers on hackathons and full-stack application development.**
- **Built a full-stack web development framework for students.**
- **Placed ~80% of graduating students in high-paying software development jobs**

**April 2013-
June 2014**

FREELANCE DATA SCIENTIST– New York, NY

Clients included an academic department, a startup, and a financial firm.

- **Created programs to achieve abstract goals presented by non-technical clients, determining high-level strategies, applicable tools, and most effective code log**
- **Developed an effective model (~55% accuracy) for predicting stock returns by performing NLP analysis on the language of CEOs for a risk management firm.**
- **Delivered a user-friendly and stable tool for a non-technical end user that automates the harvesting of data stores on over 75 websites.**

**Feb. 2013-
Aug. 2014** IARPA BABEL OPEN KWS PROJECT- New York, NY
U.S. Department of Defense project to generate high-performing keyword search (KWS) system for speech data in low-resource languages

Researcher/Programmer

- Wrote software that interacted with every level of a multi-stage KWS system produced by a global team spanning several universities and corporate labs.
- Improved on team's best KWS result by designing a feature set, ML classification scheme, and parameter-optimization routine for search-result rescoring.

**Nov. 2012-
Oct. 2014** SPEECH LAB AT QUEENS COLLEGE - New York, NY
Research group focused on computational approaches to decoding speech

Research Assistant

- Collaborated with other researchers on large-scale projects relating to speech natural language processing
- Published work in response to the Interspeech ComParE conflict recognition challenge with a feature reduction method that improved on baseline results.

TEACHING & LANGUAGE EXPERIENCE

**Aug. 2009 -
June 2014** PRIVATE TUTOR - New York, NY
Work for tutoring agencies and independently acquired clients

Private Tutor.

- Teach programming in Python, Java and other languages to children and adults providing useful metaphors and challenging exercises to unlock key concepts.
- Prepare clients for language, math and science subjects as well as standardized tests on the high school, undergraduate and graduate levels.

**Aug. 2009 -
May 2012** LEGAL OUTREACH - New York, NY
College pipeline program for students from underserved communities.

Writing Program Instructor, Afterschool Program Director

- Developed a year's worth of curricular materials in grammar and essay writing
- Fully restructured the afterschool program, effecting the first measurable improvement in grade average in the organization's history.
- Presented statistical reports on attendance and grades to Legal Outreach's funders
- Managed a team of five instructors, each responsible for a class of 12 - 15 students

SKILLS & LANGUAGES

Tech: JavaScript (React and Node.js); HTML/CSS/SCSS; Python (ML and NLP tooling such as NumPy, SciPy, NLTK & scikit-learn); UNIX environments and shell scripting
Languages: Proficient: Spanish, German; Competent: French, Chinese