Virginia Partridge

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Education

University of Massachussetts   *Amherst, MA*
MASTER OF SCIENCE IN COMPUTER SCIENCE   *August 2020 - present*
- Cumulative GPA 3.85/4.0

Brandeis University   *Waltham, MA*
BACHELOR OF ARTS *magna cum laude* IN COMPUTER SCIENCE; LINGUISTICS; MATHEMATICS   *May 2012*
- Cumulative GPA 3.96/4.0
- Phi Beta Kappa, inducted as Junior

Bryn Mawr College   *St. Petersburg, Russia*
RUSSIAN FLAGSHIP PROGRAM   *August 2012 - May 2013*
- Participant in the intensive Russian language and culture institute partially funded by Fulbright-Hayes grants

Bashkir State Pedagogical University   *Ufa, Russia*
RUSSIAN CRITICAL LANGUAGE SCHOLARSHIP PROGRAM   *Summer 2011*
- Scholarship recipient and participant in the intensive Russian language institute funded by the U.S. Department of State

Skills

Programming   Experienced with *Java*, *Python*, *Bash*, *git* and *LaTex* | Proficient in *Scala* and *SQL*

Libraries   Experienced with *Apache Spark*, *luigi*, *NLTK*, *Stanford CoreNLP*, *scikit-learn*, *pandas*, *Spring Framework*, *spaCy* and *WEKA*

Languages   German (professional, Goethe Institute C1 certified) | Russian (professional, TRKI 3 certified)

Agile   Certified Scrum Master (CSM) , experienced with Atlassian suite of tools

Work Experience

Brandeis University Linguistics Department   *Waltham, MA*
TRANSCRIPTION AND ANNOTATION CONSULTANT   *December 2020 - Present*
- Transcribe German and Russian speech for the Corpus of Bilingual Russian Child Speech (BiRCh), aiding development of a corpus for studying language acquisition in bilingual and monolingual Russian communities

QPID Health, an eviCore Company   *Boston, MA*
SENIOR NATURAL LANGUAGE PROCESSING (NLP) & MACHINE LEARNING (ML) ENGINEER   *February 2019 - August 2020*
NLP ENGINEER   *September 2017 - February 2019*
- Developed classification models to determine if a medical imaging procedure is justified for a patient from a faxed medical record
- Established clinical document review covering 30 radiology procedures in production and reduces burden on nurse reviewers by least 25% at predetermined error rates
- Continuously evaluated production model performance through dashboards and API monitoring to ensure they are performing to the business operations team's expectations
- Developed and improved a NLP pipeline for processing faxed or uploaded clinical records, including document segmentation and extraction of clinical entities and lab values from noisy free text
- Conducted experiments to improve performance of ML models, informed by the latest research in the fields of NLP and health informatics
- Collected and analyzed a corpus of over 4 million free text clinical documents, creating an asset critical to the company's long term goals of applying machine learning in clinical decision making
- Fully automated pipelines for data collection, document processing and training and evaluation of document classification models with Python and open source tool luigi
- Led annotation projects targeted at improving feature extraction from clinical records by writing guidelines, overseeing annotation progress, training annotators and revising tasks based on inter-annotator agreement and feedback from clinical staff
- Mentored interns on the NLP/ML team as they complete independent projects related to the team's research initiatives

Intel Corporation
Hudson, MA

SOFTWARE ENGINEER IN NATURAL LANGUAGE PROCESSING
July 2013 - August 2017

- Contributed to design and implementation of a RESTful API and Python SDK for storage, search and retrieval of natural language data, used by internal speech recognition and user experience teams
- Wrote and helped automate a suite of multilingual dialogue integration tests for gauging coverage and performance of Intel® Real Speech in the Oakley Radar Pace product from early development through post product release
- Collaborated on the CES 2016 demo script showcasing Oakley Radar Pace, which won a CES Innovation Award in 2017
- Implemented and maintained components of the team's natural language understanding pipeline in Java and Python
- Analyzed automated and ad-hoc dialogue test results, reporting and triaging issues using JIRA, then validating fixes
- Applied linguistic analyses to identify critical behaviors in dialogue applications and generate testing corpus accordingly
- Researched natural language data sets and open source toolkits to identify those relevant to Intel's work
- Led reading groups on new technologies in NLP and assisted linguist team members in developing their programming skills
- Acted as Scrum Master for a small distributed Agile team responsible for internal tools to store and share corpora

Zlatoust Publishing House and Language School
St. Petersburg, Russia

LOCALIZATION INTERN
January 2013 - May 2013

- Translated textbooks of Russian as a foreign language, documents and promotional materials from Russian to English
- Led English language discussion hour for co-workers, organizing materials to aid with practicing English
- Produced and edited content for Zlatoust's English language website, while formatting both Russian and English websites

MITRE Corporation
Bedford, MA

ENGINEERING INTERN
June 2012 - August 2012

- Contributed to the TranScript project, using artificial intelligence algorithms to identify errors in medical prescriptions
- Implemented algorithms in Java within the project's existing framework to train models and classify data
- Engineered experiments and analyzed their results to improve the system's performance on the task
- Annotated project dataset and suggested changes to annotation guidelines based on re-occurring phenomena in the data

Brandeis University Computer Science Department
Waltham, MA

TEACHING ASSISTANT FOR PROGRAMMING IN JAVA , INTRO TO COMPUTERS
August 2011 - May 2012

- Tutored and assisted students with course material during weekly office hours
- Corrected students' assignments and offered advice for improvement in one-on-one grading sessions
- Troubleshot, installed, and debugged students' programs and software required for the course

ANNOTATOR FOR LANGUAGE CORPUS TIMEML UNDER DR. JAMES PUSTEJOVSKY
February 2010 – May 2011

- Annotated and analyzed language data in grant funded project to recognize events and timelines from free text using machine learning
- Utilized linguistic and syntactic knowledge to analyze and catalog data

Brandeis University Linguistics Department
Waltham, MA

GRADER FOR PHONOLOGY AND PHONETICS , INTRO TO LINGUISTICS , MORPHOLOGY
January 2011 - May 2012

- Utilized analytic skills to reason about linguistic data and correct students' responses on course problem sets

UNDERGRADUATE DEPARTMENT REPRESENTATIVE
August 2010 - May 2012

- Planned and organized department promotions, such as informational workshops, Meet the Majors events, and movie nights
- Advised undergraduate students on course selection, study abroad, and university resources
- Acted as liaison between undergraduate students, graduate students, and department faculty

International Institute of Buffalo
Buffalo, NY

LANGUAGE SERVICES DEPARTMENT INTERN AND INTERPRETER COORDINATOR
May 2010 - August 2010

- Informed approximately 250 English Second Language students about their legal rights to an interpreter, based on individual preparation
- Applied knowledge of linguistics to match interpreters to clients in health care, legal, and social service settings

Presentations

"Recent Advances in NLP"

INTEL NEXTGEN EMPLOYEE RESOURCE GROUP NERD LUNCH
June 2016

- TedTalk style presentation giving an introduction to common NLP applications and approaches, with a focus on how new research in the field has offered innovative solutions

"Method for Testing Spoken Dialogue Systems in NDG"

INTEL SPEECH AND LANGUAGE TECHNOLOGY SUMMIT
March 2016

- Collaborated on poster for an Intel internal conference detailing the process of generating a test corpus for the Oakley Radar Pace dialogue system, architecture for automated testing and analysis of test results in each version release

Professional Affiliations

Association for Computing Machinery (ACM), Member   *2018 - present*
Association for Computational Linguistics (ACL), Member   *2013, 2015*

Volunteer Experience

League of Women Voters Massachusetts, Worcester/Boston/Franklin County chapter member   *2016 - present*
Wellesley College Hackathon, Wellesley, MA, Mentor   *November 2018*
Worcester Refugee Assistance Project, Worcester, MA, Youth program volunteer   *2016 - 2018*
Tri-Valley Front Runners Running Club, Hopedale, MA, Member and race crew volunteer   *2015 - 2018*
Baypath Humane Society, Hopkinton, MA, Dog walker and trainer   *2014 - 2017*
Girls on the Run Greater Boston, Boston, MA, Race volunteer   *2016*
Intel Annual Loop Road Race Organizing Committee, Hudson MA, Member   *2014 - 2016*
Intel NextGen Young Professionals Resource Group, Hudson MA, Treasurer   *2013 - 2017*
MITRE Intern Volunteer Project, Bedford, MA, Organizer   *2012*
Brandeis Waltham Group, Waltham, MA, Pre-calculus and Calculus Tutor   *2011-2012*

Awards

QPIDian of the Month, QPID Health   *February 2018*
Otto Jespersen Award for Outstanding Achievement in Linguistics, Brandeis University   *2012*
Critical Language Scholarship Russian Language Program, United States Department of State   *2011*
Jonathan G. '75 and Margot T. Davis Endowed Scholarship, Brandeis University   *2009 - 2012*
World of Work Internship Fellow, Brandeis University   *2010*
Dean's List, Brandeis University   *2008 - 2012*