

Virginia Partridge

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Education

University of Massachusetts

MASTER OF SCIENCE IN COMPUTER SCIENCE

- Cumulative GPA 3.81/4.0

Amherst, MA

August 2020 - May 2022 (expected)

Brandeis University

BACHELOR OF ARTS *magna cum laude* IN COMPUTER SCIENCE; LINGUISTICS; MATHEMATICS

- Cumulative GPA 3.96/4.0
- Phi Beta Kappa, inducted as Junior

Waltham, MA

May 2012

Bryn Mawr College

RUSSIAN FLAGSHIP PROGRAM

- Participant in the intensive Russian language and culture institute partially funded by Fulbright-Hayes grants

St. Petersburg, Russia

August 2012 - May 2013

Bashkir State Pedagogical University

RUSSIAN CRITICAL LANGUAGE SCHOLARSHIP PROGRAM

- Scholarship recipient and participant in the intensive Russian language institute funded by the U.S. Department of State

Ufa, Russia

Summer 2011

Skills

Programming

Experienced with *Java, Python, Bash, LaTeX, git, Docker, AWS*; Proficient in *SQL, Scala, and Ruby*

Libraries

Experienced with *sklearn, numpy, SpaCy, NLTK, Stanza, MALLET, Elasticsearch, luigi, pandas, gensim, Apache Spark, Spring Framework*;

Proficient with *Tensorflow, LabelStudio, 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

University of Massachusetts Amherst, Center for Data Science

GRADUATE HOURLY SOFTWARE ENGINEER

- Deploy and maintain JupyterHub environment in AWS for classroom use
- Gather and prioritize requirements from Center for Data Science partners for a variety of data science needs
- Develop proto-type machine learning applications, including computer vision and unsupervised text clustering solutions

Amherst, MA

September 2021 - Present

DATA SCIENCE FOR THE COMMON GOOD FELLOW

- Coordinate with non-profit and public sector partners in leveraging internal data to advance their organizational missions
- Establish annotation workflows to help organization partners categorize and understand their internal data
- Develop predictive machine learning training pipelines and models to be deployed at organizational partners

June 2021 - August 2021

Brandeis University Linguistics Department

TRANSCRIPTION AND ANNOTATION CONSULTANT

- 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

Waltham, MA

December 2020 - Present

QPID Health, an eviCore Company

Boston, MA

**SENIOR NATURAL LANGUAGE PROCESSING (NLP) & MACHINE LEARNING (ML) ENGINEER
NLP ENGINEER**

*February 2019 - August 2020
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 reducing 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
- Troubleshoot, 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

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

UMass Graduate Women in Stem, Amherst, MA, Mentoring committee member

2021 - present

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

Brandeis University Linguistics Department, Waltham, MA, Undergraduate Department Representative

2010-2012

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

National Post-Secondary Russian Essay Contest Honorable Mention, American Councils Teachers of Russian

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