Philip Robinson

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Personal Statement

I have 7+ years experience, solving increasingly difficult problems with software. My projects span products and research including data pipelines/management, medical informatics, programming languages, computer securities, audio, image, and text processing. I have developed strong interests in scientific computing, information retrieval, machine learning, and education.

Persistent Experience :

Python	C, C++	Linux	TDD
R, dplyr	LaTeX	Git	Ticketing Systems

Work Experience

Graduate Research with ACO — **Marine Acoustics Engineer** **(continuing)**

- Researched deep unsupervised anomaly detectors, for sane indexing of 10 year audio track
- Developed ACOio, an intuitive ACO track explorer, to rejuvenate data access for researchers
- Developed principled audio processing and noise-suppression, focused on marine bioacoustics

Technologies : **Python**, **ACOio**, **tensorflow**, **scipy.signal**, **Jupyter**

Thinkful (Part Time) — **Data Science Technical Expert** **Jan. 2019 – present**

- Advised career transitioners in mastery of professional and data science topics
- Provided safe environment for 1:1 training and instruction in a remote-first setting

NASA Jet Propulsion Lab — **Graduate Data Science Intern** **June 2018 – Sept. 2018**

- Designed & developed Expert Modeling/Recommender System, by extending the Author-Topic-Model
- Developed and specified program from use-case meetings with top NASA/JPL employees
- Implemented stable/principled text normalization, tokenization, and model evaluation
- Open Source contributions to the gensim's natural language processing library

Technologies : **Python**, **nltk**, **gensim**, **pyLDAvis**, **pandas**, **Jupyter**

OHSU Fair Neuroimaging Lab — **Research Assistant** **Oct. 2017 – June 2018**

- Contributed to workflows and analytics tools for studying Microbiome populations
- Supported research on developing brains, including ABCD, and several ADHD/ASD studies
- Developed processing pipeline and audit tools for reported data and FMRI images

Technologies : **Python**, **Bash**, **R**, **neo4j**, **ponyorm**, **stan**, **GitLab**, **Docker**

Contractor/Consultant

RGB Optics / C&W Energy USA (Part Time) **Nov. 2015 – Aug. 2018**

- Developed custom photo image processing tools for low cost spectral profile analysis
- Authored educational material in light pollution's effect on economy, biology, and technology
- Provided live technology tutorials and consulting on optimization and image processing

ComScore **June 2016 – Sept. 2016**

- Worked to support large, custom, memory mapped, data store for demographic analysis

Melinae **March 2016**

- Setup infrastructure in AWS to enable secure & sustainable remote-first workflow
- Provided hands on training in Python and R to industry professionals

Technologies : **Python**, **numpy**, **skimage**, **R**, **AWS**, **PostgreSQL**, **Perl**, **C++**, **Jira**, **ZenHub**

Galois Inc. — **Research Engineer** **April 2014 – Dec 2015**

- Developed processing pipelines and workflows to enable evaluator work for DARPA programs
- Produced biannual quantitative and qualitative reports on for DARPA and language developers
- Participated in programs sharing new technologies to research and industry professionals

Technologies : **Python**, **SLURM**, **Scala**, **Figaro**, **Chimpy**, **Docker**, **Jira**, **Basecamp**

EMC^2 Isilon Storage — **Software Development Engineer** **Dec. 2012 – July 2013**

- Brought to schedule a lagging anchor release feature in approximately 5 months
- Designed and developed password manager to support Data At Rest Encryption
- Wrote unit tests using libcheck to attain > 80% code coverage

Technologies : **C**, **C++**, **Python**, **SQLite**, **Subversion**, **FreeBSD**, **OpenSSL**

Neato Projects

Multiple Myeloma Clinical Trials custom named-entity boosted topic model — ***numpy, Python***
Topic modeling and applications, a presentation for non-statisticians — ***beamer, LaTeX***
Workshop collaborative introduction to GitHub and slides — ***markdown, bash, github.api***
Morphological Watersheding Algorithms — ***pyspark, numpy, ndimage, Python***
Relevance Vector Machine — ***Julia***
Information Retrieval Cluster/Rank Demo Harness — ***flask, numpy, nltk, sklearn, Python***
Gene Data Breast Cancer Drug Predictor — ***R, caret***
Distributed Fully Homomorphic Encryption System — ***Hadoop, Sagemath***
Concurrent Elliptic Curve Cryptography Module — ***Sagemath, Erlang***
Multilingual Analysis of Subordinating and Coordinating Conjunctions — ***R, Perl***
AdaRailz Concurrent Model Train Control System — ***Ada***

Education

Oregon Health Science University — CSLU

Computer Science MSc
2016 – present — *Expected Graduation: Sept. 2019*

Courses :

- ⋆ Advanced Topics in Machine Learning
- Deep Learning
- Machine Learning
- Artificial Intelligence
- Statistical Methods
- Univariate Statistical Analysis
- Analysis of Sequences
- ⋆ Natural Language Processing
- ⋆ Advanced Topics in Signal Processing
- Speech Signal Processing
- Problem Solving with Large Clusters
- Image Processing
- Information Retrieval
- Computing Ethics

Western Washington University — Computer Science

Computer Science BS, Mathematics Minor
June 2012

Courses :

- Unix Software Development
- Windows Software Development
- Operating Systems
- Computer Networks
- Software Project Requirements Analysis
- Software Project Design
- Software Project Implementation
- Analysis of Algorithms
- Linear/Non-Linear Data Structures
- Discrete Structures
- Formal Languages/Automata
- Programming Languages
- Concurrent Programming
- Computer Organization I/II
- Probability and Statistical Inference
- Object-Oriented Programming in C++

Electives :

- Homomorphic Encryption Systems
- Cryptography & Elliptic Curves
- Artificial Intelligence
- Natural Language Processing
- Functional Programming
- Computer Graphics
- Computer Architecture
- Number Theory
- Elementary Real Analysis
- Abstract Algebra
- Linear Algebra I/II
- Ordinary Differential Equations