# Philip Robinson

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### Personal Statement

I love to work on hard problems and value the knowlege needed to generate solutions in new domains. I am an adaptable engineer, whose work history spans products and research in machine learning, software engineering, scientific computing, and computer securities.

### Skills/Experience :

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

# Work Experience

**Graduate Research OHSU/ACO** – **Machine Learning in Marine Acoustics** (continuing)
Acted as project lead and managed communication in a remote environment without supervision
Researched deep anomaly detectors, to index bioacoustic events from a 10 year audio track
Measured effects of adaptive spectral subtraction, for audio denoising, on model accuracy
Developed ACOio, an intuitive ACO track explorer, to rejuvenate data access for researchers
**Technologies : Python, ACOio, Keras, tensorflow, scipy.signal, Jupyter**

**HappyWhale** – **Staff Software Engineer** March 2019 – present
Worked as software developer in nimble small team in both a remote and onsite environment
Developed SciDir, a cross platform tablet application for managing citizen-science projects
Maintained and contributed to user tools for individual whale identification and tracking
**Technologies : NativeScript, Angular, node.js, Android, PostgreSQL, Java**

**NASA Jet Propulsion Lab** – **Graduate Data Science Intern** June 2018 – Sept. 2018
Fully specified programmatic solution from use-case meetings with top NASA/JPL employees
Designed & developed Expert Modeling/Recommender System, by extending the Author-Topic-Model
Implemented stable/principled text normalization, tokenization, and model evaluation
Open Source contributions to the gensim natural language processing library
**Technologies : Python, nltk, gensim, pyLDAvis, pandas, Jupyter**

**OHSU Fair Neuroimaging Lab** – **Research Assistant** Oct. 2017 – June 2018
Contributed to microbiome population analytics tools, to study female reproductive system
Developed processing pipeline and audit tools for reported and FMRI data, on AHDH/ASD studies
Acted as OSS and Securities lead, developing, training and enforcing best practices
**Technologies : Python, Bash, R, neo4j, ponyorm, stan, GitLab, Docker**

**RGB Optics (Part Time)** – **Remote Contractor/Consultant** Nov. 2015 – Aug. 2018
Developed custom photo image processing tools and pipelines for low cost spectral analysis
Authored educational material in light pollution's effect on economy, biology, and technology
Developed natural language processing tools to organize and explore Myeloma clinical trials
Provided technology tutorials and consulting on code optimization, NLP, and image processing
**Technologies : Python, numpy, skimage, AWS, ponyorm, PostgreSQL, ZenHub, CliNER**

**Galois Inc.** – **Research Engineer** April 2014 – Dec 2015
Developed processing pipelines and workflows to enable evaluator work for DARPA programs
Helped run professional trainings to disseminate new probabilistic programming languages
Produced biannual quantitative and qualitative reports on for DARPA and language developers
Contributed to PPAML, Overseas Voting Foundation, Safeware, Robot Fast Track
**Technologies : Python, SLURM, Scala, Figaro, Chimpy, Docker, Jira, Basecamp**

# Neato Projects

| | |
|---|---|
| Topic modeling and applications, a presentation for non-statisticians | *beamer, LaTeX* |
| Workshop collaborative introduction to GitHub and slides | *markdown, bash, github.api* |
| Distributed Morphological Watersheding Algorithms | *pyspark, numpy, ndimage, Python* |
| Information Retrieval Cluster/Rank Demo Harness | *flask, numpy, nltk, sklearn, Python* |
| Distributed Fully Homomorphic Encryption System | *Hadoop, Sagemath* |
| Concurrent Elliptic Curve Cryptography Module | *Sagemath, Erlang* |

# Education

## Oregon Health Science University                    Machine Learning

Computer Science MSc
2016 – present

**Courses :**

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

## Western Washington University          Computer Science & Cryptography

Computer Science BS, Mathematics Minor
June 2012

**Courses :**

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

**Electives :**

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