

# Robert L. Jefferson

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## Professional Experience

- **Comcast** (as a contractor for Yoh) **Philadelphia, PA**  
*Engineer 3 (Site Reliability Engineer)* *December 2015 – Present*
  - Developing tools and strategies for deploying multiple large-scale OpenStack clusters (approx. 200 compute nodes each) in both development and production environments
  - Providing support for tenants in existing OpenStack clusters
  - Crafting tests using Rally and ServerSpec for CI/CD of OpenStack clusters
  - Creating playbooks for troubleshooting and resolving common issues with production OpenStack installations
  - Developed a proof of concept for an automated testing framework of Puppet 3 and 4 modules using Test Kitchen, Vagrant, and OpenStack
  - Created a suite of troubleshooting and analysis programs to classify problems with groups of hundreds or thousands of Puppet nodes
- **Solutions for Progress** **Philadelphia, PA**  
*Software Engineer I/II* *October 2012 – December 2015*
  - Developed proofs of concepts and deployed implementations for integrating modern technologies (e.g., CouchDB, D3.js/Rickshaw, Backbone.js) into a primarily Perl-based web application
  - Managed regular builds and releases for The Benefit Bank and other company products
  - Added geocoding and spreadsheet upload/processing features to a Django-based website for an anti-hunger organization
  - Worked as part of a team designing and developing a Django-based re-implementation of a financial literacy and budget coaching service
  - Built deployment and maintenance tools, including a build and release management system, for Django projects using Fabric
  - Developed a set of strategies from moving the codebase from Subversion to Git, including rewrites of build and deployment tools, development of user education strategies, and writing documentation
- Research Associate to the CEO* *January 2011 – October 2012*
  - Served as principal researcher for the CEO on a variety of social enterprise projects
  - Developed economic models, detailed business plans, and proposals examining the scientific and economic viability of a high-tech indoor urban farm
  - Wrote a set of research reports and briefs on a range of topics in insurance, tax policy, health care, education, environmental policy, and sustainable technology
  - Performed feasibility studies and constructed models on oil recycling systems
  - Examined the potential economic impact of changes in the number of persons receiving state and federal benefits (e.g., SNAP, Medicaid, EITC)
- **Heinz College, Carnegie Mellon** **Pittsburgh, PA**  
*Research Assistant* *January 2007 – May 2008*
  - Wrote code in Stata to aid in a research project examining explanatory factors in historical immigration restriction laws
  - Collected data and reconciled errors and uncertainties in historical United States Census data
  - Won “Best Tepper Senior Honors Thesis in Economics” award from research started as an assistant
- **Tepper School of Business, Carnegie Mellon** **Pittsburgh, PA**  
*Teaching Assistant/Tutor* *January 2007 – May 2008*
  - Served as the lead teaching assistant and point of contact for a 300-student principles of economics course
  - Taught weekly recitation sections, held office hours, and graded homework, projects, and exams for courses on econometrics, economic modeling, and the history of economic thought
  - Wrote and delivered occasional lectures on the history of economic thought and econometrics

## Education

- **Northwestern University** **Evanston, IL**  
2008 – 2010  
*Doctoral program, Economics*
  - Coursework in microeconomics, econometrics, statistics, and real analysis
  - Focus on economic history and urban economics
- **Carnegie Mellon University** **Pittsburgh, PA**  
2004 – 2008  
*BS, Economics*
  - Senior Thesis: *Anti-Foreign Sentiment in the California Gold Rush*
    - \* Winner, “Best Tepper Senior Honors Thesis in Economics”
  - Coursework in game theory, economics of education, computer science, theory of measurement, mathematical analysis, economic history, urban history, and probability
  - Activities: Economic Society, WRCT (served as music director)

## Skills

**Languages:** Python, JavaScript, Perl, SQL, Clojure, Ruby, shell scripting (bash and zsh)

**Cloud Technologies:** OpenStack, Amazon Web Services, VMWare VCenter

**Web Frameworks:** Django, Flask, Backbone.js

**Deployment and CI:** Ansible, Puppet, Fabric, Buildbot, Jenkins

**Testing Tools:** Test Kitchen, RSpec/Serverspec, Rally, Selenium

**Design and Typesetting Languages:** L<sup>A</sup>T<sub>E</sub>X, HTML, CSS, PostScript

**Mathematical Software:** R, NumPy, Stata, SAS

**Databases:** PostgreSQL, MariaDB/MySQL, CouchDB, SQLite, Redis

**Other:**

- Economic and statistical modeling
- Build and release management
- Automated application deployment
- Design and maintenance of complex spreadsheets
- Writing research reports, business plans, memos, and software/process documentation
- Project management