Gerald F. **Wu**

Computer Science · Applied Mathematics

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Skills

Programming: Java, C, Scala, C++, OCaml, Racket, Python, Processing, Shell scripting
Web: JQuery/JavaScript, ASP Classic, LAMP, HTML/CSS
Other: Red Hat Certified (RHCSA 180-132-714), VMWare vSphere/vSAN, Docker, Kubernetes, Ansible, LaTeX, Git

Education

Brown University — *Providence, RI*

Major: Computer Science, Applied Math — *2017 - PRESENT*

2018-2019 **CS**, Systems | Database Management Systems | Software Engineering | Logic for Systems
2018-2019 **Applied Math**, Applied Partial Differential Equations II | Statistical Inference I | Probablistic Models
2017-2018 **CS**, An Integrated Introduction I | An Integrated Introduction II
2017-2018 **Applied Math**, Applied Ordinary Differential Equations | Applied Partial Differential Equations I
2017-2018 **Math**, Honors Calculus (Multivariable) | Honors Linear Algebra | Abstract Algebra

Thomas Jefferson High School for Science and Technology — *Alexandria, VA*

High School Education — *2013 - 2017*

- GPA: 4.37 – AP Computer Science with Data Structures, Parallel Computing, Computer Systems Research

Experience

Software Engineering Intern — *Arlington, VA*

Leidos — *May 2019 - Aug. 2019*

- Part of software development team working on **autonomous** (self-driving) sea vessels (C++/Python)
- Primary designer of **systems architecture** for next-gen virtualization approach (VMWare/Red Hat/Kubernetes)
  - Researched, evaluated, proposed, and implemented various architectures involving **VMWare** clustering, VMWare **vSAN**, Red Hat **OpenShift**, and **Kubernetes**
  - Final proposed systems architecture approved for implementation
- Core member of **software migration** process from Red Hat 6 to 7 (C++/Python)
  - Significant code rewriting to fit a **microservice** approach

Applied Mathematics Teaching Assistant — *Providence, RI*

Brown University — *Sep. 2018 - Dec. 2018*

- Undergraduate teaching assistant for APMA 0340: Methods of Applied Mathematics II. This course covers both **nonlinear ordinary differential equations** and **partial differential equations** from an applied mathematics perspective.

Software Engineering Intern — *McLean, VA*

FMS Inc. — *May 2018 - Aug. 2018*

- Cluster analysis in large-scale graphs (C#)
  - Researched, implemented, and **optimized** the **Markov Clustering Algorithm** (MCL) to identify clusters in relational graphs of size **100,000+** nodes and **120,000+** edges in less than **10 minutes**
- Implemented secure, PCI-compliant payment integration on the web using Authorize.Net (ASP Classic)
  - Complete integration with the **Authorize.Net** payment gateway, including both **one-time** payments and long-term customer **payment profiles**

Software Engineering Intern — *Washington D.C.*

Smithsonian Institution — *Jun. 2016 - Aug. 2016*

- Metadata extraction tool (Java/shell scripts)
  - Reads **metadata** from files in an ingest folder and populates an **Oracle database** with the data
- Metadata ingestion tool (Java)
  - Automatically processes **spreadsheets** within ingest folders and populates **Oracle database**

Software Engineering Intern — *Washington D.C.*

Smithsonian Institution — *Jun. 2015 - Aug. 2015*

- Two-part data integrity program for Smithsonian Digital Asset Management System
  - Ingests **MD5 checksum** data and writes it to an Oracle database, and **verifies data integrity** at a later date