

# TODD SEIDELMANN

## WORK EXPERIENCE

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May 2021-Present                      University of Washington                      Seattle, WA

*Senior Software Engineer*

- Develop Python/Postgres-based data pipeline for Seattle Coronavirus Action Network and various state agencies to improve COVID testing and tracking.
- Build local development environment to help design new features and increase testing fidelity.
- Optimize AWS environment for HIPAA compliance, continuous deployment, and uptime requirements.
- Maintain Amazon RDS deployment, including planning upgrades and investigating performance issues.

Apr 2019-May 2021                      Linode, LLC                      Philadelphia, PA

*Systems Software Engineer*

- Developed new products from proof-of-concept to production-quality offerings at cloud scale, including Cloud Firewall backend and GPU-accelerated virtual machines.
- Investigated infrastructure issues, including host memory allocation and IRQ problems, saving over 10% in yearly hardware capital expenditures and reducing power and cooling costs by more than 20%.
- Improved virtual machine migration speed by a factor of 1,000 and developed metrics to measure virtual machine performance problems from the hypervisor. Earned MVP Developer award.
- Submitted patches to Linux kernel to fix bugs and improve performance of new products. Earned MVP Developer award again for this effort.

Aug 2014-Apr 2019      Wharton Research Data Services (WRDS)                      Philadelphia, PA

*Senior Application Developer*

- Created PostgreSQL-based data integration suite with 400+ data products and 50,000+ consumers. Collaborated with other developers to create a REST API and Python module to access it.
- Developed full-text search application of Securities and Exchange Commission (SEC) document corpus.
- Supported academic, corporate, and government users of financial research platform.
- Served as team lead for several year-long core business improvement projects.
- Continued responsibility for all aspects of Sr. Systems Programmer and Systems Programmer roles.

Mar 2012-Aug 2014      Wharton Research Data Services (WRDS)                      Philadelphia, PA

*Senior Systems Programmer*

- Advocated for key technical improvements to all aspects of WRDS architecture. Developed tools in Perl, Python, Bash, and several domain-specific languages to implement those improvements.
- Collaborated in code reviews and mentored junior programmers to improve institutional knowledge and avoid information siloing.
- Maintained legacy Perl software through the software development lifecycle.
- Continued responsibility for all aspects of Systems Programmer role.

Jun 2010-Mar 2012      Wharton Research Data Services (WRDS)      Philadelphia, PA

*Systems Programmer*

- Scaled Research-as-a-Service platform from monolithic to microservices-based architecture to improve performance and reliability.
- Designed and implemented OpenLDAP-based centralized authentication service for 50,000+ active users. Developed software for online account management.
- Created new applications in C, Python, and Perl to support and manage Red Hat Enterprise Linux environment.
- Engaged with doctoral and masters-level end-users worldwide to assist them with technical, programming, and data questions.

EDUCATION

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2012-2015      University of Pennsylvania      Philadelphia, PA

*Advanced Certificate, Post-Baccalaureate Pre-Health Studies*

- Maintained 3.93 GPA in science track while employed full-time in a senior-level role, and scored in the 98<sup>th</sup> percentile on the Medical College Admissions Test.
- Tutored fellow students in biochemistry, general, and organic chemistry.
- Served as mentor for new Pre-Health students arriving in Summer 2015.

2002-2006      The College of New Jersey      Ewing, NJ

*Bachelor of Science, Computer Science*

- Engaged in mentored research of new pedagogical methods utilizing Linux kernel to teach concepts in upper-level Operating Systems course.
- Recipient of President's Freshman Award for Outstanding Academic Achievement.

TECHNOLOGY SKILLS & COMPETENCIES

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- Programming Languages: C, C++, Perl 5, Python 2.7 & 3.x
- Python modules: NLTK, Pandas, SQLAlchemy, BeautifulSoup, psycpg2, asyncio, websockets, mock, pytest
- Operating Systems: Linux, Oracle Solaris, FreeBSD
- Relational Databases: PostgreSQL, MySQL, Microsoft SQL Server, Oracle
- Build Systems: GNU Autoconf/automake, cmake, Jenkins, Travis CI, CircleCI, git, svn
- Cloud Providers: Amazon AWS, Google Cloud Platform, Microsoft Azure, Digital Ocean, Vultr, Linode
- Other Technologies: HAProxy, Sun/Univa/Oracle Grid Engine, Ansible, Apache Solr

OTHER SKILLS & COMPETENCIES

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- End-user communication, technical support, requirements gathering
- Agile development methodology
- Microservices architectures
- Data security & encryption
- Code profiling & analysis
- Unit, system, and integration testing & debugging
- ETL methodologies, including HTML/XML/XBRL crawling/scraping/cleaning
- Natural language sentiment analysis