

# Sean Shahkarami

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I'm a well-rounded developer with strong mathematical and problem solving skills. I enjoy unique challenges that can teach me something new and pull from multiple domains.

## Work Experience

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### **Developer for Waggle, Array of Things and SAGE - Argonne National Lab - January 2016-Present.**

I work on a wide range of programming and technical problems at the intersection of data analytics, IoT and AI / ML as applied to scientific infrastructure. My responsibilities have included:

- Developing bulk and live data publishing and processing pipeline.
- Developing firmware for our system critical embedded systems.
- Improving containerization of software stack for simpler, more reliable deployment and testing.
- Developing open-source Python and C++ platform libraries.
- Developing QA processes and tools used by our manufacturing partners and technicians.
- Guiding summer interns through the design, implementation and integration of software tools.
- Significant independent investigation of ideas to improve our processes and workflow.

### **Math and Computer Science Intern - Argonne National Lab - Summer 2015.**

I implemented code and tools going towards a large scale watershed simulation. This involved knowledge of fluid mechanics and hyperbolic PDEs, tool development in Python, and building the simulation on top of PETSc in C.

### **Computational Bootcamp Instructor - University of Illinois at Urbana-Champaign - Summer 2014, 2015.**

I developed and taught an intensive two-week workshop targeting 30 mathematics graduate students interested in learning programming and computational skills with Python and Scipy. Material from the most recent workshop can be found [here](#).

## Skills

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**Development.** Experienced in Python, C++, Go and many other tools as needed.

**Operations.** Linux, Docker, Ansible, RDBMS, Cassandra, Elasticsearch, Prometheus

**Data Tools.** Numpy, Scipy, Jupyter, Pandas, scikit-learn, PyTorch

## Education

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- Progress towards Ph.D in Mathematics, 2011-2016, University of Illinois at Urbana-Champaign
- M.S. in Mathematics, 2011-2013, University of Illinois at Urbana-Champaign
- B.A. in Mathematics with Minor in Computer Science, 2007-2011, University of Illinois at Urbana-Champaign