



Information School®  
UNIVERSITY of WASHINGTON



## Software Engineer

Social Network Communications Data from Developing Countries

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Req #:	100895
Appointing Department Web Address:	<a href="http://ischool.uw.edu/jobs">ischool.uw.edu/jobs</a>
Job Location:	Seattle Campus
Posting Date:	10/15/2013
Closing Info:	Open Until filled - Preference will be given to applications received by 10/29/13
Salary:	Competitive

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The University of Washington (UW) is proud to be one of the nation's premier educational and research institutions. Our people are the most important asset in our pursuit of achieving excellence in education, research, and community service. Our staff not only enjoys outstanding benefits and professional growth opportunities, but also an environment noted for diversity, community involvement, intellectual excitement, artistic pursuits, and natural beauty.

The UW Information School (iSchool) is a community of diverse disciplines, professional fields, and areas of expertise engaged with the study of information and its use by people and organizations. We conduct rigorous research and create challenging learning environments that make a difference throughout the region, the state of Washington, the nation, and the world.

We are an open, ethical, highly engaged and collaborative community based on trust, transparency and mutual respect. We believe in the importance of quality of life, embracing diversity, making a difference and having fun.

A sustained engagement with global communities of practice allows our work to remain relevant and cutting-edge. We are dedicated to attracting and nurturing a diverse group of students, faculty and staff and we are committed to helping all members of our community to achieve their fullest potential.

The iSchool is looking to hire an outstanding individual to serve as a Software Engineer working for Dr. Joshua Blumenstock on a project around Social Network Communications Data from Developing Countries (SNCDDC). Dr. Blumenstock, along with Dave Donaldson at the MIT Economics Department, investigate the possibilities for using massive spatio-temporal network data from mobile phone networks and social media (e.g. Twitter) to study

human phenomena at an unprecedented temporal and spatial scale. In ongoing work their goal is to better understand the impact of human mobility on labor markets in developing countries, with a particular focus on sub-Saharan Africa and South Asia. This work is funded by DfID, the UK's international aid agency, under the remit of its Global Labor Markets – Low Income Countries grant program.

Professors Blumenstock and Donaldson are seeking a talented Software Engineer with experience in processing “big data” to assist with numerous technical and computational aspects of this project. The project requires the efficient storage and analysis of many terabytes of data, and the position will draw on many different skills, such as programming, data ETL and warehousing, data visualization, and efficient distributed computing. The position would be ideal training and experience for someone with a strong engineering, programming, or computer science background, who is considering a PhD in Information Management, Computer Science, Computational Social Science, Data Science, or related fields.

Primary responsibilities for this position are as follows:

Design and build terabyte-scale data warehouse to store and analyze massive network datasets

- Carefully research different options for data storage, including (i) building out a custom compute cluster from scratch; (ii) partnering with UW supercomputing center; (iii) leveraging cloud-based options
- Data ETL over 40 terabytes of communications data from raw log files to a custom, structured computing environment

Write and deploy high-performance, distributed code to process and analyze raw data

- Quickly prototype basic analytic algorithms using scripting and object-oriented languages
- Implement high-performance technologies such as hadoop/Hive, Spark/Shark, and GraphLab to efficiently process and analyze communications data

Develop algorithms to extract social patterns from processed dataset

- Write statistical and machine learning algorithms to find patterns in the data
- Develop information visualizations and animations to highlight social phenomena discovered in the data

The person in this position may be required to periodically travel both nationally and internationally.

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**For full position announcement and to apply** please go to [www.uw.edu/jobs](http://www.uw.edu/jobs) and search for **Requisition #100895**