

Senior Software Engineer – Big Data Systems

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About Berkeley

The University of California, Berkeley, is one of the world's most iconic teaching and research institutions. Since 1868, Berkeley has fueled a perpetual renaissance, generating unparalleled intellectual, economic and social value in California, the United States and the world. Berkeley's culture of openness, freedom and acceptance—academic and artistic, political and cultural—make it a very special place for students, faculty and staff.

Berkeley is committed to hiring and developing staff who want to work in a high performing culture that supports the outstanding work of our faculty and students. In deciding whether to apply for a staff position at Berkeley, candidates are strongly encouraged to consider the alignment of the Berkeley Workplace Culture with their potential for success at <http://jobs.berkeley.edu/why-berkeley.html>.

Departmental Overview

The AMPLab has been awarded a five-year \$10M, NSF “Expeditions in Computing” program grant, which was announced by the White House as part of their “Big Data” research initiative, a 4.5 year, \$5M Darpa XData contract and has raised \$6M to date from Industry sources. The director is Michael Franklin, co-principal investigators are Michael Jordan, Scott Shenker and Ion Stoica. The founding group included eight faculty members and dozens of Ph.D. students who were backed by 18 industry titans, including Google, Amazon Web Services and SAP. AMP researchers are developing powerful new tools to help extract key information from Big Data, a term coined for the dizzying array of measurements, images, audio, video, tweets, texts and more that has grown ever larger, faster and more diverse. A key part of AMPLab's mission as promised to these sponsors is to deliver scalable, robust and reliable software that can be used by researchers inside and outside of Berkeley as well as by government, industrial and other organizations that need to make sense of massive amounts of data. The purpose of this position is to ensure that the software developed by the lab is of sufficient functionality, robustness and quality to meet these high expectations.

Meeting the new Big Data challenges requires an entirely new approach that transcends and reshapes disciplinary boundaries. The AMPLab is a five-year collaborative effort at UC Berkeley, involving students, researchers and faculty from a wide swath of computer science and data-intensive application domains to address the Big Data analytics problem. AMP stands for “Algorithms, Machines, and People”. AMPLab envisions a world where massive data, cloud computing, communication and people resources can be continually, flexibly and dynamically be brought to bare on a range of hard problems by people connected to the cloud via devices of increasing power and sophistication.

Responsibilities

40% AMPLab Open-source software development:

- Applies advanced applications programming concepts to designs, develop, modifies, debug and evaluate highly complex programs for functional areas.
- Able to code programs of high complexity; derive logical processes on technical platforms; engage in performance/integration testing, technical analysis, data analysis; data modeling; and build screens, windows and reports of high complexity.
- Designs, develops, modifies, and evaluates programs for functional areas that are highly complex and have broad, world-wide impact.

15%

- Initiates, designs and uses complex relational databases.
- Develops and executes moderately complex test plans.
- Develops conversion and system implementation plans.

10% Responsible for providing analysis for highly complex existing programs or works to formulate logic for new systems, devise logic procedures, prepare flowcharting, perform coding, data analysis, and test/debug programs, dealing directly with major department managers.

10% Provide technical leadership to a team of applications programming professionals. Team may include a dozen graduate students at UCB and several dozen individual open-source contributors from around the world.

10% Prepares and obtains approval of system and programming documentation.

5% Initiates and recommends changes in development, maintenance and system standards.

5% Trains users in conversion and implementation of system.

5% Performs highly complex data modeling, performance and integration testing.

Required Qualifications

Software Engineer (payroll title: Applications Programmer 4) Requirements:

- Requires advanced knowledge of applications programming function. Experience with Apache Spark and Shark, NoSQL, Java, Amazon Web Services (EC2 S#) preferred.
- Demonstrated experience working in a large open-source development project in a distributed program environment and has experience involving a diverse set of contributors.
- Must have knowledge relating to the design and development of applications programs across the organization.
- Requires a broad and thorough knowledge of other related areas of IT.
- Knowledge of department processes and procedures.
- Requires advanced skills associated with programming design, modification and implementation.
- Requires interpersonal skills in order to work with both technical and non-technical personnel at various levels in the organization, with industry and government sponsors, and with external collaborators.
- Has skills needed to develop conversion and system implementation plans.
- Must be able to communicate technical information in a clear and concise manner.
- Requires ability to understand business needs and how business systems can support those needs.
- Has ability to interface with management on a regular basis.
- Must be self-motivated, work independently or as part of a team, able to learn quickly, meet deadlines and demonstrate problem solving skills.
- Requires understanding of the workings of a systems research environment, ability to read research literature and implement concepts and unique insight into to transfer results from research to practical deployments..

Criminal Background Check

This position has been designated as sensitive and may require a Criminal Background Check. We reserve the right to make employment contingent upon successful completion of a Criminal Background Check.

Equal Employment Opportunity

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, or protected veteran status. For the complete University of California nondiscrimination and affirmative action policy see: <http://policy.ucop.edu/doc/4000376/NondiscrimAffirmAct>

If you'd like more information about your EEO rights as an applicant under the law, please see: http://www1.eeoc.gov/employers/upload/eeoc_self_print_poster.pdf

Work Environment

As of January 1, 2014 the University of California, Berkeley is a smoke and tobacco free workplace. Information about our Smoke and Tobacco Free policy is available at:

<http://www.tobaccofree.berkeley.edu/>