Scientific Software Engineer (Data Science & AI Institute)

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Johns Hopkins, founded in 1876, is America's first research university and home to nine world-class academic divisions working together as one university.
The Johns Hopkins Data Science and AI Institute (DSAI) is focused on revolutionizing discovery by advancing artificial intelligence that evolves collaboratively with human intelligence, combining the strengths of each for the betterment of society and the world in which we live. DSAI will bring together the mathematical, computational, and ethical foundations of AI with the domains of Health & Medicine, Safety & Assurance, and Discovery & Inquiry. DSAI seeks a ***Scientific Software Engineer*** with a strong academic backgrounds and relevant experience in industry. The successful candidates will work at the cutting edge of modern science within the new Scientific Software Engineering Center (SSEC) at Johns Hopkins University (JHU). The Center is part of the Virtual Institute for Scientific Software (VISS), launched by Schmidt Futures, a philanthropic initiative founded by Eric and Wendy Schmidt. VISS will address the growing demand for high-quality professional software engineers who can build dynamic, scalable, open software to facilitate accelerated scientific discovery across fields. (See https://www.schmidtfutures.com/schmidt-futures-and-leading-research-universities-launch-software-engineering-centers-to-accelerate-scientific-discovery/ for more information on the VISS.) The SSEC will be hosted by the Institute of Data Intensive Engineering and Science (IDIES) at JHU within DSAI, a new pan-institutional initiative at Johns Hopkins to advance artificial intelligence and its applications, in part through investments in the software engineering, data science, and machine learning space. The SSEC engineers will be at the forefront of modern data intensive science, where high-level software is rapidly becoming the key ingredient for success. The DSAI initiative includes the build-out of a substantive and professional-scale software engineering capability, and a dramatic increase in infrastructure, both in hardware and in personnel. JHU has long been a world leader in the broader domains of medicine and public health as well as a wide range of science and engineering fields. This combined with our ethos of building out capabilities to have demonstrable global impact (e.g., JHUs Coronavirus Resource

Center the award-winning global resource for real-time data and analysis for COVID-19) and other unique large scientific data sets, like the archives for the Sloan Digital Sky Survey and several simulations, will be key leverage points that will make the Center successful.

Specific Duties & Responsibilities

- The successful candidates will be given a choice of ground-breaking research projects that need advanced software solutions requiring expertise in software engineering not commonly found in scientific collaborations.
- The projects may require the creation of AI/ML solutions using the latest DNN libraries trained on state-of-the-art hardware.
- Projects may also involve analysis of massive data sets either in the cloud or on premises.
- They may require creation of software pipelines for processing of real-time high-frequency data processing workflows and may need the design of complex database models for storing and disseminating scientific data sets.
- Some projects may require deep engagement, possibly leading to co-authorship on scientific publications, while others may involve a more casual consulting engagement.
- They may require software solutions developed from scratch or refactoring existing solutions to make them conform to industry standards (quality, reusability, robustness, portability, documentation, etc.).
- It is a high-level goal of the SSEC to translate the efforts for the individual projects into frameworks and template patterns for sustainable scientific infrastructure benefiting future projects.

Minimum Qualifications

Masters in a Quantitative Discipline, e.g., Computer Science, Engineering, Astrophysics, Bioinformatics with strong scientific computing and/or mathematics background.

- Three (3) years or more experience working in software development and/or data science in large projects in industry.
- Additional education may substitute for required experience, and additional related experience may substitute for required education beyond a high school diploma/graduation equivalent, to the extent permitted by the JHU equivalency formula.

Preferred Qualifications

- PhD in a quantitative discipline.
- Five years or more experience working in software development and/or data science in industry.
- Experience with articulating and translating business/application questions and translating these into software and statistical techniques to arrive at an answer using available data.
- Demonstrated leadership and self-direction.

- Willingness to both teach others and learn new techniques.
- Demonstrated skills in selecting the right tools given a data analysis problem.
- Effective written and verbal communication skills.

Classified Title: Scientific Software Engineer
Role/Level/Range: APPTSTAF/01/ST
Starting Salary Range: Commensurate w/exp.)
Employee group: Full Time
Schedule: 37.5 hrs/wk, M-F
FLSA Status: Exempt
Location: Hybrid/Homewood Campus
Department name: DSAI Institute
Personnel area: Whiting School of Engineering

The successful candidate(s) for this position will be subject to a pre-employment background check. If you are interested in applying for employment with The Johns Hopkins University and require special assistance or accommodation during any part of the pre-employment process, please contact the HR Business Services Office at jhurecruitment@jhu.edu. For TTY users, call via Maryland Relay or dial 711. **The following additional provisions may apply depending on which campus you will work. Your recruiter will advise accordingly.** During the Influenza ("the flu") season, as a condition of employment, The Johns Hopkins Institutions require all employees who provide ongoing services to patients or work in patient care or clinical care areas to have an annual influenza vaccination or possess an approved medical or religious exception. Failure to meet this requirement may result in termination of employment. The pre-employment physical for positions in clinical areas, laboratories, working with research subjects, or involving community contact requires documentation of immune status against Rubella (German measles), Rubeola (Measles), Mumps, Varicella (chickenpox), Hepatitis B and documentation of having received the Tdap (Tetanus, diphtheria, pertussis) vaccination. This may include documentation of having two (2) MMR vaccines; two (2) Varicella vaccines; or antibody status to these diseases from laboratory testing. Blood tests for immunities to these diseases are ordinarily included in the pre-employment physical exam except for those employees who provide results of blood tests or immunization documentation from their own health care providers. Any vaccinations required for these diseases will be given at no cost in our Occupational Health office. **Equal Opportunity Employer**
Note: Job Postings are updated daily and remain online until filled. **EEO is the Law**
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