Scientific Software Engineer (Data Science & AI Institute)

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Type: Full-Time
Posted: Today
Category: Software Engineer/Programmer

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: M-F, 37.5 hrs wkly
FLSA Status: Exempt
Location: Hybrid/Homewood Campus
Department name: DSAI Institute
Personnel area: Whiting School of Engineering

The listed salary range represents the minimum and maximum Johns Hopkins University offers for this position, based on a good faith estimate at the time of posting. Actual compensation will vary depending on factors such as location, skills, experience, market conditions, education, and internal equity. Not all candidates will qualify for the highest salary in the range.

Johns Hopkins provides a comprehensive benefits package supporting health, career, and retirement. Learn more: https://hr.jhu.edu/benefits-worklife/.

Equal Opportunity Employer
All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or status as a protected veteran.

EEO is the Law

https://www.eeoc.gov/sites/default/files/2023-06/22-088_EEOC_KnowYourRights6.12ScreenRdr.pdf

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