Mount Sinai

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Biomedical Software Developer in whole-cell modeling

The Karr lab in the Institute for Genomics & Multiscale Biology at the Mount Sinai School of Medicine is seeking talented, ambitious individuals to develop cutting-edge dynamical models of human and bacterial cells. Despite the explosion of experimental data, we do not comprehensively understand how phenotype arises from genotype. Our approach is to develop computational models which predict how behavior emerges from the molecular level by integrating diverse data into a single model. Our goal is to use models to make medicine more precise and personalized by predicting disease progression and drug responses. We are also using our models to engineer bacteria. Our research is highly interdisciplinary involving computational modeling, software engineering, data visualization and curation. We have close collaborations with several experimental groups to build and test our models.

Responsibilities. The software developer will be responsible for developing a software platform for large-scale dynamical modeling including:
- Databases of experimental training data,
- Declarative languages for models and simulations,
- A parallelized simulation engine,
- A database of simulation data, and
- Web-based data visualization software.

The software developer will work closely with scientists to develop the whole-cell modeling platform in conjunction with new models of humans and bacteria.

Desired skills/experience. The ideal candidate has the following skills. Applicants with deep experience in related fields are also encouraged to apply.
- Bachelor's degree in computer science or related field;
- Several years experience in software engineering, data visualization, and databases;
- Excellent object-oriented programming skills in Python and JavaScript;
- Ability to learn new skills and concepts; and
- Abilities to work independently and within a team effort.

Compensation & Benefits. Compensation will be commensurate with experience and education. All employees are eligible for medical, dental, and health insurance.

How to apply. Please send a cover letter indicating your research and career goals, a CV, and 2-3 letters of reference to Jonathan Karr (karr@mssm.edu).

More information. Please visit our website (research.mssm.edu/karr) or contact Jonathan Karr (karr@mssm.edu).

About the Institute for Genomics & Multiscale Biology. The Institute for Genomics & Multiscale Biology is an interdisciplinary group of scientists and engineers who are passionate about using computation and technology to make medicine more precise and personalized. Our research spans several areas of computational biology and biotechnology including systems biology, genomics, and bio- and medical informatics. Mount Sinai is an internationally recognized leader in clinical and basic science research.