Software Developer – Computational Pathology

About Cernostics:
Cernostics is a Pittsburgh-based life science company pioneering new methods for the early detection of cancer. Early detection enables cancer to be cured, before it causes needless suffering and death. We use state-of-the-art computer and data science to develop and commercialize diagnostic tests that quantify molecular and structural changes within tissue biopsies caused by newly forming cancers. These high risk cases are often missed by standard pathology but are identified by our high-dimensional computational pathology platforms. The company is funded by one of the leading venture capital firms in Silicon Valley, and we have numerous collaborations with leading healthcare institutions around the world.

Job Description:
As a software engineer at Cernostics you will enjoy working on a broad array of software systems and projects. You will work closely with our scientists to develop new and efficient ways of extracting and managing high-dimensional computational pathology data sets.   We are committed to building effective, efficient, easy to use and scalable software systems to address our myriad of computational and automation related challenges.

The position requires close collaboration with a multidisciplinary group of scientists and will be responsible for responsible for communicating complex technical information clearly to outside consultant software engineers. The responsibility of this position is managing specialized work efficiently, with confidence, competence and discipline. The position requires above average attention to details, concern for the exact correctness of work, and strong commitment to tasks completed on time. A somewhat faster-than-average pace will be the norm for this position. Detailed, specialized work is the major focus.

Current and Future Projects Include:
- Algorithm design, implementation and optimization for processing high-dimensional digital pathology feature data
- Graphical user interface development
- Automation of quality assessments
- Cloud (AWS, Google) automation and service development
- Data storage design and large-scale data processing systems and algorithms
- LIMS (Laboratory Information Management Systems) and EDS (Electronic Data Capture)

Background and Skills Required/Preferred Qualifications
- BS or BA in Computer Science, Bioformatics, or similar, including at least 2 years of college-level programming courses and college-level signal processing courses
- Be proficient in MATLAB, especially with the Image Processing and Signal Processing toolboxes. Experience with creating mex files in C++ is a plus.
- Have experience writing image analysis algorithms. They will have experience with image analysis methods, including convolutions, color space conversions, and segmentation algorithms.
- Experience with medical images, especially pathology images and fluorescence microscopy images.
- Have experience with basic statistical techniques, such as creating summary statistics and performing basic hypothesis testing.
- Follow good programming practices, such as writing unit tests and documenting all work.

Bonus Points
- Experience with cloud technologies and architecture such as AWS
- Have familiarity with classification methods, especially as applied to images. They will have familiarity with at least one of: tree-based classifiers, support vector machines (SVM), deep learning classifiers, or comparable methods.
- Extensive experience in any of these areas: distributed systems, databases, security, storage, networking, web applications, UI or automation.
- Demonstrated experience with and track record of quickly learning new programming languages and technologies. Demonstrated effective written and verbal communication skills.
- Demonstrated leadership and self-direction.
- Demonstrated willingness to both teach others and learn new techniques.