

Douglas C. Wu

Bioinformatics Scientist/Engineer

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Professional summary

Highly-motivated fast learner with > 8 years of bioinformatics consultation, engineer and research experiences. Collaborative and innovative with strong communication and interpersonal abilities. Staying up-to-date with industrial trends in sequencing and bioinformatics technologies. Comfortable with working in a fast-paced environment.

Skills

Bioinformatics Variant Calling, Multiplex PCR primer design, WGS-seq, Targeted DNA-seq, RNA-seq, 16S-seq, methyl-seq, experimental design, familiar with public *-omics databases and their APIs, such as UCSC and Ensembl

Coding Python, R, Bash, Rust, SQL, C/C++, Matlab

Computing Familiar with Amazon Web Service (AWS), High performance computing (SGE and SLURM), Snowflake, Docker/Singularity, GitHub Action, Jenkins

Deep learning framework JAX/STAX, PyTorch, Keras/Tensorflow

Experimental skills Cell-free DNA and RNA-seq, Methyl-seq, Molecular diagnostics, Live cell imaging

Experience

Invitae

January 2021 – Present

Bioinformatics Engineer/Scientist

Rockville, MD

- Collaborated with R&D scientist to develop, optimize and validate novel experimental (Illumina and Pacbio) and computational methods for high-throughput detection of germline mutations (SNV, InDels, repeat expansions) in "hard-to-do" genes
- Integrated validated R&D tools into production pipeline python codebase to expand current clinical genetic testing offerings for pharmaceutical partners to increase revenue by 80% per sample
- Developed RESTful endpoints to stream data for clinical geneticist data review and enable LIMS automation to support processing of >1,000 samples/month
- Established assay development process for integration testings across different production systems
- Developed R&D code to interact with different internal microservices to decrease turnover time in genomics experiments
- Performed code review to improve code quality of the production pipeline and led collaborative efforts to refactor production code base to warrant genetic testing accuracy

QIAGEN

July 2019 – December 2020

Bioinformatics Scientist

Frederick, MD

- Provided bioinformatics consultation for thousands to million-dollar-sized NGS projects from experimental design to result reporting
- Expert in data visualization and progress/result reporting presentations for academic, pharmaceutical and biotech researcher customers, and internal stakeholders
- Worked with global product managers to establish genomics services cost calculations to provide more competitive service pricing

Education

University of Texas at Austin

Ph.D in Molecular Genetics specialized in Bioinformatics

2013 – 2019

Austin, TX

University of Illinois at Urbana Champaign

BS in Biochemistry

2009 – 2013

Champaign, IL