Christopher J. Fiscus, PhD

Bioinformatics Scientist

Irvine, California

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in fiscuscj

Summary

R&D Scientist with extensive experience in bioinformatics, computational biology, and data science. Strong track record of leading high-impact research projects within cross-functional teams. Expert communicator with a talent for translating complex technical information to diverse stakeholders, fostering collaboration and driving project success.

Professional Experience Postdoctoral Researcher

University of California, Irvine

09/2022 - Present Irvine. CA

- Conducting cutting-edge research on wild grape genomics utilizing novel genomics and machine learning algorithms, leading to 4 conference presentations (3 talks, 1 poster)
- Led a team of 4 in the 2023 Pan-Structural Variation Hackathon in the Cloud, designed an algorithm to characterize copy number variation from next generation sequencing data
- Developed and implemented bioinformatics algorithms for analysis of multi-omics NGS sequencing data in a high-performance computing environment

Graduate Student Researcher

University of California, Riverside

09/2016 - 09/2022

Riverside, CA

- Contributed to genomics research projects as part of a cross-functional R&D team, leading to 3 peer-reviewed publications and 8 conference presentations (2 talks, 6 posters)
- Developed a novel pipeline utilizing K-mer frequencies from WGS reads to profile genomes, estimate repeat copy number variation, and map genetic determinants of CNV using GWAS
- Mentored and managed teams of 1-2 direct reports (5 mentees total), enhancing their technical skills and contributing to successful project outcomes

Quality Control Laboratory Technician

Charles Krug Winery

12/2015 - 08/2016 St. Helena, CA

- Conducted enology laboratory tests throughout production, ensuring legal compliance and maintaining quality standards across multiple product lines
- Redesigned 5 SOPs for quality control laboratory assays, improving laboratory efficiency by 20% and ensuring consistent, reliable testing procedures
- Collaborated with production teams to identify and resolve product quality issues, enhancing overall product consistency through thorough data analysis and problem-solving

Harvest Laboratory Technician

Charles Krug Winery (via Apex Life Sciences)

08/2015 - 12/2015

St. Helena, CA

Conducted enology laboratory tests and data evaluation supporting the production of 1.5 million cases annually

Skills

- Data analysis: inferential statistics, regression, clustering, PCA, machine learning (random forests)
- **Programming**: R (tidyverse, ggplot2), bash, python
- Bioinformatics: NGS data analysis, SNP calling, GWAS, bwa, GATK, samtools/bcftools, bedtools, plink
- Computing: Unix command line, SLURM (HPC), conda, git (version control), snakemake (workflow)

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Education

Ph.D. Genetics, Genomics and Bioinformatics

2022

University of California, Riverside

B.S. Biotechnology

2015

University of California, Davis

Certifications

AWS Cloud Technical Essentials

11/2023

Coursera

Publications © 0000-0001-9569-1809

Landis JB, Guercio AM, Brown KE, **Fiscus CJ**, Morrell PL, Koenig D. Natural selection drives emergent genetic homogeneity in a century-scale experiment with barley. Science. 2024;385: eadl0038. doi:10.1126/science.adl0038

Deb SK, Kalra D, Kubica J, Stricker E, Truong VQ, Zeng Q, **Fiscus CJ**, [41 authors], Sedlazeck FJ, Busby B. The fifth international hackathon for developing computational cloud-based tools and resources for pan-structural variation and genomics. F1000Res. 2024;13: 708. doi:10.12688/f1000research.148237.1

Fiscus CJ, Herniter IA, Tchamba M, Paliwal R, Muñoz-Amatriaín M, Roberts PA, Abberton M, Alaba O, Close TJ, Oyatomi O, Koenig D. The pattern of genetic variability in a core collection of 2,021 cowpea accessions. G3. 2024. doi:10.1093/g3journal/jkae071

Martinez SE, Conn CE, Guercio AM, Sepulveda C, **Fiscus CJ**, Koenig D, Shabek N, Nelson DC. A KARRIKIN INSENSITIVE2 paralog in lettuce mediates highly sensitive germination responses to karrikinolide. Plant Physiol. 2022. doi:10.1093/plphys/kiac328