Contact

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Top Skills

Shinyapp
Git
GitHub

Healix Loo

Scientist
Jena, Thuringia, Germany

Summary

Committed to making things better, much better, and massively better.

Experience

Leibniz Institute on Aging - Fritz Lipmann Institute (FLI)
5 years 7 months

Postdoctoral Researcher (Senior Bioinformatician, Scientist)
January 2023 - Present (1 year 7 months)
Germany

- Managed datasets and computational pipeline framework within the group
- Conducted bioinformatic atlas research on cellular senescence
- Performed computational inference on causal gene networks
- Researched interactions within microbiome communities
- Using advanced machine learning and AI large models to solve the classification problem of senescent cells

PHD Student
January 2019 - December 2022 (4 years)
Germany

- Characterized aging changes in stem cells of the mouse intestine both in vivo crypts and in vitro organoids at the transcriptome level
- Conducted multi-omics bioinformatic analysis including DNAseq, RNAseq, scRNAseq, ChIPseq, Metagenomics, and 16S
- Investigated conservation of functional modules during embryonic development in mice and humans
- Developed a new gene panel for colon cancer diagnosis
- Developed all varieties of shiny application related to scientific projects

3DMedcare
Bioinformatics Researcher
October 2015 - December 2018 (3 years 3 months)
Shanghai, China

1) Bioinformatics Analysis for Precision Oncology: Conducted bioinformatics analysis for precision clinical diagnosis of tumor patients.
2) NGS Variants Detection Pipeline Development: Developed, evaluated, maintained, and optimized LDT-related NGS variants detection pipelines. Tested various software, constructed and validated the first version of the SEA database, developed the TEA pipeline product, independently completed and validated the AFP program, and integrated these into the production line.
3) Immunotherapy Product Development: Developed bioinformatics pipeline for tumor immunotherapy products iMMUNEO (neoantigen prediction), facilitated late-stage product commercialisation, and managed external collaborations. Involved in precision vaccine development and antibody and immune cell therapy.
4) Biomolecular Marker Development: Developed biomolecular markers, including tumor mutation load, neoantigen load, microsatellite instability (MSI), and TCR detection. Provided treatment schemes for targeted therapy and immunotherapy based on NGS technology.
5) IVD Medical Device Registration: Managed the registration process for in vitro diagnostic (IVD) medical device software, including standard product scheme design, communication, and implementation.
6) PD-L1 Immuno-Drug Development: Developed clinical molecular markers for the PD-L1 immuno-drug (KN035) and handled molecular marker screening for clinical trial enrollment.
7) Diagnostic Platform Validation: Ensuring accuracy, specificity, and sensitivity of the platform. Conducted bioinformatics analysis for various external quality assessments (EQA).
8) CAP Laboratory Certification: Managed the bioinformatics component for CAP laboratory certification.
9) Cell Line Research: Conducted scientific exploration of cell line genomes, gaining profound insights into cell line genetics.
10) Cross-Department Collaboration: Engaged in various cross-sectoral collaborations to support interdisciplinary projects.

Novogene
Bioinformatics Engineer
February 2015 - October 2015 (9 months)
Tianjin, China

1) WGS and WES Bioinformatics Analysis: Conducted bioinformatics analysis based on the Xten platform, focusing on human genome resequencing, including genetic disease and tumor samples. Responsibilities included data

pre-processing, filtering, alignment, QC, and detection and statistical analysis of various types of variations.
2) Third-Party Database Research and Use: Conducted in-depth research and applied various third-party databases.
3) Pipeline Automation: Gained extensive experience in bioinformatics pipeline automation.

BGI Genomics
Research And Development Engineer
February 2013 - February 2015 (2 years 1 month)
Shenzhen, Guangdong, China

1) Tumor Single Cell RNA-seq Technology Development: Independently developed experimental technology for tumor single-cell RNA sequencing.
2) Bioinformatics Pipeline Construction: Constructed bioinformatics pipelines related to biological genetic markers.
3) Mitochondrial Genome Analysis: Conducted analysis of mitochondrial genomes.
4) Forensic Science Product Development: Developed forensic science products on the proton platform, including individual identification, blood type identification, and HLA typing.
5. Sequencing and Experimental Techniques Research: Gained experience with various sequencing techniques (mainly NGS) and experimental techniques, including traditional molecular biology techniques, single-cell amplification, and PGD prenatal screening.

Education

Friedrich Schiller University Jena
Doctor of Philosophy - PhD, Biomathematics, Bioinformatics, and Computational Biology · (January 2019 - December 2022)

University of Chinese Academy of Sciences
Master of Science - MS, Genetics · (September 2012 - June 2015)

Shandong University of Science and Technology
Bachelor's degree, Biotechnology · (September 2008 - June 2012)