Alfons Edbom Devall

 AlfonsEdbom | alfons-edbdev | alfons98@live.com | +46 70 274 89 94

WORK EXPERIENCE

Bioinformatician | Alba Health   Oct 2023 - present

- Architected and maintained automated metagenomic processing pipeline handling more than 100 customer samples/month, enabling production scalability
- Owned the development and implementation of 5 new features for our production product, improving user experience and expanding functionality
- Expanded the servicable age range of the product from 1 year up to adulthood, by leading, and implementing the validation and integration of new reference data in 3 stages
- Resolved critical customer escalations, maintaining high satisfaction rates while translating complex bioinformatics and scientific findings for non-technical customers

PROJECTS

Gut Microbiome and Perinatal Depression | Master's Thesis

- Investigated gut microbiome-depression associations using shotgun metagenomic data from U.S. and Swedish cohorts; published as co-author
- Performed taxonomic profiling (MetaPhlAn4), functional annotation (HUMAnN3), and statistical analyses in R

EEG-Controlled Brain Game   Github

- Developed brain-computer interface game integrating EEG signals with physical servo motor control
- Implemented real-time FFT-based signal processing for alpha/beta wave detection

PCR-Primer Design Tool   Github

- Python tool with GUI for automated PCR primer design and specificity validation of all potential primer pairs

EDUCATION

Master of Science in Biotechnology at Umeå University   2018 - 2023

- Masters in Bioinformatics

PUBLICATIONS

Kimmel Mary Tong Bangzhou, Edbom Devall Alfons (Jan. 2025). "Investigating the Microbiome in Relation to Mental Distress Across Two Points During Pregnancy: Data From U.S. and Swedish Cohorts". In: *Biol Psychiatry Glob Open Sci.* 5.3. DOI: 10.1016/j.bpsgos.2025.100453.

TECHNICAL & PERSONAL STRENGTHS

Technical Skills

- **Languages & Tools:** Python, R, Bash, SQL, git, Docker, Conda
- **Cloud Platforms:** AWS (S3, EC2, Batch)
- **Workflow Management:** Snakemake, Nextflow
- **Metagenomics:** MetaPhlAn, MEGAHIT, HUMAnN, QIIME2, phyloseq, vegan, ANCOM-BC
- **Sequence Analysis:** FastQC, BWA, Bowtie2, SAMtools, BBTools

Personal Strengths

Team player • Problem solver • Curious • Analytical • Methodical