

Alfons Edbom Devall

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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

Process Operator | Volvo, Nouryon

Summer 2020-2022

Monitored industrial processes for manufacturing operations

Cleaning Service | Sundsvall Municipality

Aug 2017 - Jul 2018

No day of absence during the entire period of employment

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 first author
- Performed taxonomic profiling (MetaPhlAn4), functional annotation (HUMAnN3), and statistical analyses in R

PCR-Primer Design Tool

[Github](#)

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

EEG-Controlled Brain Game

[Github](#)

- Brain-computer interface integrating real-time FFT signal processing with Arduino servo motor control

EDUCATION

Master of Science in Biotechnology at Umeå University

2018 - 2023

- Masters in Bioinformatics
- Highest possible grade in 16/22 courses. Second highest possible grade in 5/22 courses

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](https://doi.org/10.1016/j.bpsgos.2025.100453).

SKILLS

Technical Skills

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

Personal Traits

Team player, Problem Solver, Curious, Analytical, Methodical