

# Theo Killian

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## Summary

Skilled professional bioinformatic analyst with deep and diverse experience in omics data visualization, bioinformatic infrastructure, web application development, and hands-on knowledge of analytical instrumentation.

## Qualifications

- 4+ years of experience performing bioinformatic analyses of omic data
- 5+ years of proficiency in Python, R and bash scripting
- 10+ years of experience working with UNIX-like operating systems (Ubuntu, Debian)
- 4+ years experience implementing prediction and classification models, including: linear and logistic regression, Bayesian models, decision trees, SVMs and neural networks
- 4+ years experience with data visualization and data manipulation packages such as pandas, numpy, scikit-learn, matplotlib, seaborn, ggplot2, dplyr, plotly, tidyverse, Shiny, as well as bioinformatic packages in the Bioconductor ecosystem such as DESeq2, limma, Seurat, SingleCellExperiment, MultiOmicsExperiment, clusterProfiler, FGSEA, and ExperimentHub
- 3+ years experience working with NGS pipelines and including analysis of bulk and single cell RNAseq and ATACseq
- 2+ years experience working with Docker containerization and AWS Cloud architecture
- 6+ years of professional experience in analytical and instrumental laboratory settings, operating analytical and quantitative instrumentation such as FT-IR, UV-Vis and GC-MS

## Education

### Masters of Science: Bioinformatics

Graduated Jan 2019

*Katholieke Universiteit Leuven, Leuven, Belgium*

**Master's Thesis:** “*Computational design of symmetric proteins for bionanotechnology*”

- **Course Experience:** Database Management, Linear Algebra, Object Oriented Programming, Dynamical Systems, Biomolecular Interactions, Biomolecular Modeling, Genomics, Proteomics and Transcriptomic Analysis, Model Organisms, Evolutionary Genetics, Quantitative Genetics, Bayesian Statistics, Machine Learning, Multivariate Statistics, Support Vector Machines and Artificial Neural Networks and Deep Learning

### Bachelor of Science: Biochemistry

Graduated Jun 2010

*Southern Oregon University, Ashland, Oregon, USA*

**Undergraduate Thesis:** *Characterizing Protein-Heavy Metal Complexes via UV-Vis and FT-IR*

- **Course Experience:** General Chemistry, General Biology, General Physics, Calculus, Organic Chemistry, Spectroscopy, Analytical Chemistry, Instrumental Analysis, Physical Chemistry, Biochemistry, Inorganic Chemistry, Differential Equations, Genetics and Molecular Biology

## Publications

- Killian T, Gatto L (2021) "Exploiting the DepMap cancer dependency data using the depmap R package" F1000 Research
- Mylemans B, et al (2021) "Crystal structures of Scone, pseudo-symmetric folding of a symmetric designer protein" BioRxiv
- Halbout M, et al. (2021) "Modulating protein production from nonsense-mediated decay targets by SUZ-domain containing proteins." Nucleic Acid Research
- Lin Y, et al. (2021) "Whole-life bone percentage trajectory and longevity in rats: Role of insulin." Aging
- Pollet H, et al. (2020) "Aberrant Membrane Composition and Biophysical Properties Impair Erythrocyte Morphology and Functionality in Elliptocytosis." Biomolecules
- Gatto L, Killian T (2019). "depmap: Cancer Dependency Map Data Package." F1000 Research

## Career Experience

*Lead Bioinformatician*, CCB-VIB, Leuven, Belgium Aug 2020 – current

- Bioinformatic analysis of multiomics data and building bioinformatic infrastructure

*Bioinformatician*, De Duve Institute, UC Louvain, Brussels, Belgium Feb 2019 – Aug 2020

- Bioinformatic analysis of omics data and building bioinformatic infrastructure

*Laboratory Analyst* Fremont Analytical Inc., Seattle, WA, USA Apr 2014 – Sep 2016

- Performed analysis of organic analytes via GC-MS and solid phase extraction

*Quality Control Chemist*, PureBulk, Inc., Roseburg, OR, USA Dec 2011 – Mar 2014

- Performed QA/QC testing of products via FT-IR, GC-MS and HPLC

*Lab Technician*, Integrated Medical Research, Ashland, OR, USA Sep 2010 – Apr 2011

- Recruited individuals and collected research trial data for clinical pharmaceutical studies

## References

- Dr. Diether Lambrechts, Professor of Medicine, KU Leuven, Leuven, Belgium  
Phone: +3216373209 - Email: diether.lambrechts@kuleuven.be - Relationship: Manager
- Dr. Laurent Gatto, Professor of Bioinformatics, UC Louvain, Brussels, Belgium  
Phone: +3227647415 - Email: laurent.gatto@uclouvain.be - Relationship: Former Manager
- Dr. Arnout Voet, Assistant Professor Molecular Modeling, KU Leuven, Leuven, Belgium  
Phone: +3216324496 - Email: arnout.voet@kuleuven.be - Relationship: Thesis Adviser
- Dr. Enrico Pozzo, Stem Cell and Developmental Biology, KU Leuven, Leuven, Belgium  
Phone: +3216373973 - Email: enrico.pozzo@kuleuven.be - Relationship: Collaborator