



Camous Moslemi

Bioinformatics
Molecular Biology
Computer Science

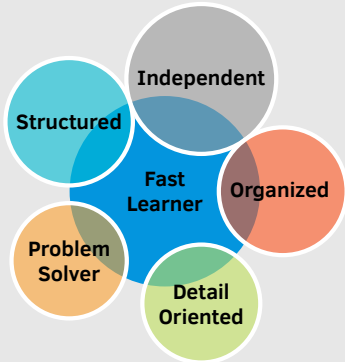
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Personality



Programming

C/C++ ★★★★★ Python ★★★★★
 Java ★★★★★ BASH ★★★★★
 PHP ★★★★★ R ★★★★★ C# ★★★★★

Languages

Danish ★★★★★ English ★★★★★
 French ★★★★★ Japanese ★★★★★
 German ★★★★★

Education

- 2018-2022 **PhD., Bioinformatics** Clinical Immunology, Zealand University Hospital
- 2013-2018 **MSc., Molecular Biology** Aarhus University
- 1999-2003 **BSc., Computer Science** University of Southern Denmark

Postdoc

Subject **Variant Effect Prediction in C3 grasses**

- Leverage the latest AI models (EMS, PDS) to predict the effect of 300k induced variants in a population of 900 Brachypodium Distachyon plants.
- Develop in-house LLM models to predict the effects of variants, such as non-coding, for which there is a lack of models, especially plant focused models.
- Developed a pipeline to do VEP in other crops, such as rice, to identify potential targets for back mutation.

PhD

Subject **Blood type genetics**

- Developed tools for fast reading and processing of plink formatted genetic data.
- Developed an expandable program for generating over 40 blood antigen types.
- Developed a python program for training and deploying Torch AI models for blood type prediction using genetics.
- Used COX regression and Andersen-Gill model analysis in epidemiological analysis of blood types and diseases.
- Found a novel association between COVID-19 infection in the Lewis blood group.

Master's Thesis

Subject **Bioinformatics** 60 ECTS

- Worked with various tools for gene annotation and gene group generation.
- Developed a sophisticated and flexible tool-set from ground up in C++ for easy analysis of genomics data.
- Developed algorithms for measuring syntentic homogeneity in gene groups for our 200+ rhizobium strains.
- Wrote a suite of R scripts for visualizing genomics data, as well as synteny for a given gene group, plus charting paralogs and synteny for whole strains.
- Performed mixed model heritability and GWAS analysis of rhizobium genome datasets based on gene presence-absence, SNP's and phenotype data.
- Performed DNA extraction and ERIC PCR in order to identify rhizobium strains in various samples.
- Developed algorithms for removing paralogs from rhizobium gene groups.

Work Experience

- 2023-2025 **Postdoc** Center for Quantitative Genetics and Genomics
Bioinformatics researcher
- Variant Effect Prediction in C3 grasses.
- 2018-2022 **PhD Project** Klinisk Immunologu - Næstved Syghus
Bioinformatics PhD student
- Genetic prediction of red blood cell types.
- 2016-2017 **Backend Developer - 1 year contract** ScienceAtHome.org - AU
Student programmer
- Programmed and maintained MongoDB database using Parse and Cloud Code
 - Expanded a C# based web front-end.
 - Developed a standalone C++ development environment for Mac, Linux and Windows.
 - Set up Continues Integration for automatic build, test and deployment in the cloud of various projects using docker and github.
 - Worked with unity.
- 2009-2013 **Programmer** Spielo, Moncton, Canada
- Programmed, maintained and debugged C++ software for video lottery machines.
- 2006-2008 **Game Developer/Designer** Progressive Media ApS, Aalborg
- Developed mobile games using java.
 - Developed games for the Nintendo DS using C.
 - Developed level editors, games engines and various other tools for internal use in C# and other languages.
 - Wrote design document and made proof-of-concept prototypes for various game project proposals.

Skills

- Mentally well equipped for technical as well as creative thinking which lends itself naturally to scientific analysis and research.
- Strong analytic skills aid in quick problem solving.
- Able to quickly learn new technologies and work methods.
- Efficient and structured worker.
- Conscientious, independent and reliable by nature.
- Great interpersonal skills and a team player.
- Supplements many years of education with many years of work experience in various settings.
- Commands many languages, has both lived and worked overseas, thereby equipped with an international perspective.

About Me

The primary motivator of my life has always been intellectual curiosity and interest.

Biology, astronomy, computers, video games, literature and movies were some of the things that fascinated me already from a young age. Of these computer science and molecular biology became the subject of my professional focus, while the rest laid claim to my time of leisure.

I have subsequently developed other interests, such as philosophy, fashion and electric engineering. The latter mostly to be able to perform repairs and keep my fragile collection of vintage 80's Japanese computers going.

In my free time I am a volunteer part of the cult movie cinema Slagtehal 3. There I play the role of bartender, cashier, administrator of social media, writer of program texts for upcoming movies and technical wizard for our video and audio equipment.

Finally, I am always equipped with a humorous and easy going attitude towards life and its many challenges.

Publications

Planned	Discovery of novel blood type disease correlations using large prescription and genetic datasets Summary Goes Here
In review	A deep learning approach to the genetic prediction of blood group antigens Summary Goes Here
2023	Genetic prediction of 33 blood group antigen types using an existing genotype dataset Summary Goes Here
2022	A large cohort study of the effects of Lewis, ABO , 13 other blood groups, and secretor status on COVID-19 susceptibility, severity, and long COVID-19 Summary Goes Here
2024	Loss of function variant in SMIM1 is associated with reduced energy expenditure and weight gain Summary Goes Here
2020	Symbiosis genes show a unique pattern of introgression and selection within a Rhizobium leguminosarum species complex Summary Goes Here
2019	Syntenizer 3000: Synteny-based analysis of orthologous gene groups Summary Goes Here

References

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University Hospital of Zealand