

# Najwa Laabid

najwalaabid@gmail.com

<https://najwalaabid.github.io/>

<https://github.com/NajwaLaabid>

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## EDUCATION

**Aalto University**, Espoo, Finland

*Doctoral Researcher (Ph.D. student) in Machine Learning applied to drug discovery. Supervised by Dr. Vikas Garg and Dr. Samuel Kaski., May 2022 - Present*

**University of Eastern Finland (UEF)**, Joensuu, Finland

*International Master's Programme in Information Technology with a focus on data science and a minor in statistics, September 2019 - July 2021*

**Beloit College**, Beloit WI, USA

*Exchange semester, focus on cognitive science and robotics, Jan. 2016 - May 2016*

**Al Akhawayn University in Ifrane**, Ifrane, Morocco

*Bachelor's degree in computer science, with a minor in business administration, September 2015 - June 2019*

## EXPERIENCE

**Junior Researcher**

September 2021 - April 2022

Working in Dr. Merja Heinäniemi's lab (systems genomics) on machine learning applied to genomics.

University of Eastern Finland

Kuopio, Finland

**ASCI Programme - Intern**

June 2021 - August 2021

Worked in Dr. Arno Solin's group under the supervision of Dr. Will Wilkinson on developing inference algorithms for nonstationary Markov Gaussian processes.

Aalto University

Espoo, Finland

**Thesis Placement - Data Analytics**

June 2020 - May 2021

Master's thesis on botnet command&control detection in IoT Networks using network flow data and a random forest model.

Ericsson Inc.

Kirkkonummi, Finland

**Research Assistant**

March 2020 - May 2020

Research assistant to Dr. Ville Hautamäki and Dr. Merja Heinäniemi. Projects focus on inference tasks for RNA and DNA single-cell sequencing data.

UEF

Joensuu, Finland

**Google Software Engineering Intern**

July 2019 - September 2019

Implemented a system for suggesting camera-presets based on event type/characteristics for DIY event spaces.

Google Inc.

Munich, Germany

**Software Engineering Intern**

July 2018 - December 2018

Developed the conversational interface of Sankhya's intelligent assistant BIA.

Sankhya Jiva Tecnologia e Inovação LTDA

Uberlândia - MG, Brazil

**Full-Stack Developer**

January 2018 - June 2018

Developed and maintained code for SAC, a CRM/ERP platform run by ASC. Worked on integrating social network features to the ERP platform.

ASC Brazil

Uberlândia - MG, Brazil

**Teacher Assistant/Statistical Analyst**

September 2017 - December 2017

Assisted with assignment grading in an entrepreneurship class. Ran statistical analysis on the program evaluation surveys for the Leadership Development Institute @ AUI.

CLE @ AUI

Ifrane, Morocco

**Teacher Assistant**

CLE @ AUI

January 2017 - May 2017

Ifrane, Morocco

Assisted with the preparation of course material (mostly assignments and reading follow-ups) for advanced French literature class, *L'Algérie de qui?*. Single-handedly prepared and delivered the last class lecture.

### **Full-Stack Developer**

CLE @ AUI

September 2016 - December 2016

Ifrane, Morocco

Gathered and analyzed software requirements of the tutoring center, CLE. Created Private Tutoring Manager (PTM). An open-source version of the project is available at: <https://github.com/NajwaLaabid/Private-Tutoring-Manager--Web-App>.

### **CRLA Accredited Tutor for Data**

CLE @ AUI

#### **Structures**

January 2016 - December 2016

Ifrane, Morocco

Prepared practice problems and mock exams for Sophomore students in Data Structures. Conducted individual and group (approx. 20 students) tutoring sessions.

## **PROJECTS**

### **Blog: Variational Autoencoders for Modeling Single-Cell Data,**

🔗 <https://najwalaabid.github.io/vae-genomics/>

Blog post explaining the math behind VAEs for an audience of bioinformaticians.

### **Denoising scRNA-seq data using Bayesian Inference,**

🔗 <https://github.com/NajwaLaabid/Denoising-sc-RNA-seq>

Identifying and imputing dropout (i.e, false 0 counts) in scRNA-seq data by fitting a Zero-inflated Negative Binomial noise model using deep auto-encoders.

### **Adversarial Resistance in Toxic Comments Detection,**

🔗 <https://github.com/NajwaLaabid/Adversarial-Toxic>

Improving the adversarial resistance in toxic comments' detection with deep learning models through augmented training sets.

### **Evaluating Frequent Itemset Mining Algorithms**

🔗 <https://github.com/NajwaLaabid/Frequent-Itemset-Mining>

Evaluating the effect of data sparsity, size, and diversity on eclat and fp-growth algorithms.

## **AWARDS**

**UEF's IMPIT Scholarship**, 2019, *100% tuition and living expenses stipend.*

**Women Techmakers Scholar**, 2018, *by Google Inc. and Women Techmakers.*

**Al Akhawayn University Excellence Scholarship**, 2015, *100% tuition and common fees.*