

# Loïs Bilat

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## EDUCATION

### Master of Science in Computer Science

EPFL

2018 – ongoing

Lausanne, Switzerland

- Specialization : Data Analytics
- GPA first year : 5.71 / 6.0

### Bachelor of Science in Computer Science

EPFL

2015 – 2018

Lausanne, Switzerland

- Optional Track : Visual Computing
- GPA : 5.47 / 6.0
- Study exchange at Linköping Universitet, Sweden. 2017 – 2018, GPA : 5.97 / 6.0

### Maturité Gymnasiale

Gymnase de Burier

2012 – 2015

La Tour-de-Peilz, Switzerland

- Specific Option : Physics and application of Mathematics
- Complementary Option : Computer Science
- Excellence award in Physics
- GPA : 5.32 / 6.0

## EXPERIENCE

### Student Assistant

EPFL

2019 - ongoing

Lausanne

- Student assistant for a computer science course given to mathematics and physics bachelor students (ICC - Information, Calcul et Communication)
- Helping them with C++ assignment and various theoretical exercises

### PowerPoint creation

EPFL

2019 - ongoing

Lausanne

- Creation of PowerPoint presentations that are used in online video classes (MOOCs)
- Transcription from handwritten slides to a coherent and engaging PowerPoint presentation

### Summer Job in an Architectural Firm

ABA Partenaires SA

2018

Lausanne

- Modification and correction of blueprints
- Processing replies to requests for tender

### Web development

yvesbilat.ch

2016

- Creation of a website for an entrepreneur using WordPress

### Private Tutoring

Mathematics

2015 – 2017, 2019

- Tutoring for Students in their 9th, 10th school years (14-15 years old)

## LANGUAGES

French - Mother Tongue



English - B2



German - B2



## PROGRAMMING LANGUAGES

Python

Java

Scala

C/C++

SQL

PHP

HTML

CSS

LaTeX

OpenGL

Assembly

VHDL

Javascript



## SKILLS

### Topics

Machine Learning

Deep Learning

Data Analysis

Artificial Intelligence

Reinforcement Learning

Natural Language Processing

Computer Vision

### Libraries

Numpy

Pandas

Keras

Spark

Scikit-learn

OpenCV

nlTK

Matplotlib

### Applications and Tools

VS Code

Git

Jupyter Notebooks

Anaconda

IntelliJ IDEA

Android Studio

Wordpress

### Operating Systems

Linux (Archlinux, Ubuntu)

Windows 10

## PROGRAMMING PROJECTS

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### Denoising with Generative Models

#### Semester Project

 2019 - ongoing

 EPFL - VITA Lab

Generative adversarial networks have often been used for image processing (for instance denoising and super-resolution). However, those techniques are less common in audio applications. The goal of this project is to first evaluate state-of-the-art techniques for audio denoising and audio super-resolution, and then to try to apply some of the Generative methods used in image processing to audio processing.

Python

PyTorch

### Detecting Bias in Amazon reviews

#### Course Project

 2018

 EPFL

A Data Story about the potential bias that can be found in Amazon user reviews, and how to correct it. We worked on 20GB of comments extracted from various Amazon articles, and used multiple tools including Pandas, pyspark, and matplotlib.

Python

Pandas

Matplotlib

Jupyter notebook

### The Quest for The Holy Grail

#### Course Project

 2018

 LiU

Creation of a 3D maze game with different objectives, world physics, lightning effects, drawing optimisation. user interface and sound effects.

C

OpenGL

### Tankode

#### Junction Hackathon

 2017

 Helsinki, Finland

Creation of an educative video game where the behavior of a Tank had to be programmed by the user. This game was programmed in less than 48 hours using Android Studio, in a team of 4 people. I had the opportunity to learn how to work efficiently in a team by splitting the work in an optimal way.

Java

Android Studio

### 3D game - Tangible user interaction

#### Course Project

 2017

 EPFL

Creation of a dexterity 3D game where the environnement had to be controlled by moving a LEGO board in front of a camera. It implemented some image processing and recognition and was done using *Processing*.

Java

### XBlast

#### Course Project

 2016

 EPFL

Creation of a multiplayer video game based on the game *Bomberman*. It could be played by up to 4 player on different computers.

Java

### Calcul Mental

#### Android Application

 2015

Creation of an Android app that people can use to do some small calculations (additions, subtractions, multiplications and divisions). Different modes, such as a test mode, a timed mode and a rush mode are available.

Java

Android Studio

### La Pipopipette

#### Travail de Maturité

 2014

 Gymnase de Burier

Creation of a multiplayer video game for iOS based on the game *Dots and Boxes*. An artificial Intelligence was implemented.

Objective-C

Xcode