# **Botond Ortutay**

# CURRICULUM VITAE

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# INTRODUCTION

I am currently a student at the University of Turku, although I'll finish my Master's Degree soon. In the mean time I've completed a deep dive into AI, algorithmics, software architecture and all that good stuff. First and foremost I'm a problem solver. If something interests me I find serious joy in building solutions.

# **EDUCATION**

2024 to present Master of Science, University of Turku, Finland

Major: Software Engineering Minor: Tomorrow's AI

2020-2024 Bachelor of Science, University of Turku, Finland

Major: Information and Communication Technology

Minor: Mathematics, Optimization

2016-2019 Tampereen Teknillinen Lukio, (Tampere High School of Technology)

Mathematical and IT-focused Matek-line

# PROJECT HIGHLIGHTS

#### graph-tests-2

A part of my BSc thesis. Contains implementations of pathfinding algorithms in C++ using templates and the Boost Graph Library as well as the measured data and calculations concerned with that.

### Imageminer

My team's submission for Boost Turku's Digital Sustainability Hackathon 2024. It is a (unfinished) tool developed for mobile with C and the QR-code recognition library.

#### Purgatory

My team's submission for the annual GMTK Game Jam in 2023. It was written in the Godot game engine using it's own pythonlike GDscript programming language. It is playable at https://v5000a.itch.io/purgatory

## LANGUAGES

Hungarian: native

Finnish: Scored L (top 5%) in native level matriculation exam test
English: Scored M (top 40%) in advanced level matriculation exam test
Swedish: Scored M (top 40%) in intermediate level matriculation exam test

# PROGRAMMING LANGUAGES

### Python with libraries

Throughout my education and my projects I have used Python for many tasks, including data processing, AI/ML development, generic software development and even game development. Libraries I'm familiar with include **Numpy**, **Pandas**, **PyTorch**, **Tensorflow** as well as parts from the Python Standard Library such as math, os and random.

### C/C++

I used C++ for writing the project in my BSc thesis, so I mainly for Algorithmics. My thesis project was written using the Object Oriented and Generic Programming paradigm. Libraries I'm familiar with include libraries from **Boost**, mainly the **Boost Graph Library**. I'm also familiar with C, and used it in my Embedded Systems Programming course at Turku University and also a hackathon project written for Android in C.

#### Java

Java is my most used language in my university education. I have used it to write object oriented applications, as well as server backends and multithreaded applications. I have also been interested in **Android Programming** and have written Android Apps in Java using **Android Studio**.

### **JavaScript**

My first experience with JavaScript was on a high school programming course where we learned the basics. Afterwards I have gone on to use it in my own projects, for example the web based game Roboleon. I've also studied web based development and built web projects as evident from my Github Repo. My frameworks include **React**, **Vue 3** and **Node.js**.

## DATABASES

#### $\operatorname{SQL}$

In university I completed the "Introduction to databases" course in Turku University, where I was introduced to SQL. I set up an SQL server for myself for exercises and experimentation using MariaDB.

#### MongoDB

During the University of Turku course "Web and Mobile Programming" I set up a full-stack application using MongoDB as a database. Since then I've also used it in my personal projects

# OTHER RELEVANT EXPERIENCE

### Linux

I have been a daily Linux (more specifically Fedora) user for more than ten years now. It has been my primary operating system on both laptops and desktop computers. Nearly all of my software game development experience comes from Linux.

### Open source software

As a Linux user I am quite experienced with working with open source software. This includes both such software as Gimp, Inksacpe and LibreOffice, and also specifically development oriented open source solutions (like Git, bash and VSCode).

### UI/UX design

I have done university courses on the topic and used tools such as Figma to design interfaces and interactions mainly for websites and mobile applications.