



## Wojciech Wesołowski

Full Stack Web Developer

### Skills

#### Languages

C# (.NET Core 5.0)

JavaScript/TypeScript

Python 3

#### Web development

Angular 11

ASP .NET Core 5.0

#### Databases

PostgreSQL

SQLite

Microsoft SQL Server

#### Platforms

Linux (Mint), Bash shell

### Summary

A hard-working programming enthusiast, open to learning new technologies to develop reliable solutions for current challenges. As a senior technician at the University of Agriculture in Krakow used programming skills to develop custom scripts/applications to solve complex bioinformatics tasks and other computationally solvable problems leading to savings of time and money. Valuable team member having experience in problem diagnostics and developing solutions.

### Work experience

#### Senior technician

2020 - today

University of Agriculture in Krakow  
Department of Plant Biology and Biotechnology

Responsibilities:

- Processing of sequential data obtained by next- and third-generation sequencing methods, e.g. assembling and annotating of plant mitochondrial genomes, identifying DNA polymorphisms using genotyping by sequencing (GBS) protocol.
- Preparing reports of computational results.

#### Scientific and didactic assistant

2019 - 2020

University of Agriculture in Krakow  
Department of Plant Biology and Biotechnology

Responsibilities:

- Preparing and delivering lectures in bioinformatics and phylogenetics.
- Preparing and conducting practicals in bioinformatics and phylogenetics.

#### Senior technician

2009 - 2019

University of Agriculture in Krakow  
Department of Plant Biology and Biotechnology

Responsibilities:

- Conducting research in the field of plant molecular biology and genetic engineering.
- Preparing scientific reports.
- Controlling and tracking inventory of supplies and equipment by placing requisitions and acquiring quotes.

### Projects

#### Food cooperative management system

03/2021 - 05/2021

[https://github.com/Aviatore/koop\\_frontend.git](https://github.com/Aviatore/koop_frontend.git)

<https://github.com/Aviatore/koop.git>

**Technologies used:** C#, .NET Core 5.0, Entity Framework, .NET Core Identity, Angular 11, Bootstrap 5, PostgreSQL, JWT

Commercial project developed using agile methodology in a four-member team for the food co-op Wawelska Kooperatywa Spożywcza. The created platform provides a complex solution for managing food co-ops, i.e. shop functionality, reporting and analytics, memberships and suppliers management. I designed and created the application database, implemented JWT-based authentication and administrative module for memberships and products management.

## Education

05/2020 - 05/2021

**Full Stack Web Developer**

CodeCool

09/2008 - 04/2019

**PhD in Biotechnology**

University of Agriculture in Krakow

09/2004 - 06/2008

**M.Sc. in Biotechnology**

University of Agriculture in Krakow

## Interests

- ▶ Paragliding
- ▶ Hiking
- ▶ Cycling

## Contact

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### Unity Game

<https://github.com/Aviatore/UnityGame.git>

**Technologies used:** C#, Unity game engine, SQLite

01/2021 - 02/2021

2.5D game written in C using Unity game engine. The project was developed in a two-person team. My major contribution to this project was the implementation of the main character and one of the two available levels.

### K-mer counter

[https://github.com/Aviatore/kmer\\_counter](https://github.com/Aviatore/kmer_counter)

**Technologies used:** Python

01/2021 - 02/2021

The tool was originally developed for the identification of k-mers specific to Miniature Inverted-repeat Transposable Elements (MITEs). For this purpose, a special algorithm was designed using an interval tree data structure to speed up the searching process. The identified k-mers are subsequently annotated using Tomtom - a motif comparison tool.

### ProcessWatch

<https://github.com/Aviatore/ProcessWatch.git>

**Technologies used:** C#, .NET Core 3.1, GTK

12/2020 - 01/2021

Simple process manager written in C using GTK widget toolkit. The software allows previewing, filtering and killing running processes.

### Tetris-JS

<https://github.com/Aviatore/tetris.git>

**Technologies used:** JavaScript, HTML, CSS, Python, Flask, PostgreSQL

11/2020 - 11/2020

Implementation of a well-known game in JavaScript (frontend) and Python/Flask (backend). The game is a remake of the BrickGame developed by PerseusGames on Android devices. I developed this project in cooperation with two other programmers. I coordinated the development process and programmed core game functionalities.

### PyTetris

<https://github.com/Aviatore/pytetris>

**Technologies used:** Python, SQLite

11/2019 - 12/2019

A console version of a well-known game implemented in Python. The game handles high scores which are stored in SQLite database. The game works on the Windows platform only.

### Camera

<https://github.com/Aviatore/camera>

**Technologies used:** C++, WinAPI

07/2019 - 08/2019

Created the software which allows performing basic operations on a CCD camera controlled by the 1394cmdr driver, e.g. image preview, setting shutter and exposure. Images captured by the software can be saved into TIF or BMP format. The program was created as a replacement for image processing software provided with the UVP Gel Imaging System because of a connectivity problem between a camera and the original software. Thanks to this software our Department did not need to purchase a new imaging system saving approx 30,000 PLN.

**VCF2CAPS**

09/2018 - 08/2019

<https://github.com/Aviatore/vcf2caps>**Technologies used:** Perl 5, Tk

Created VCF file analysis tool for CAPS marker development. The software facilitates the conversion of a large number of single nucleotide polymorphisms (SNPs), multiple nucleotide polymorphisms (MNP) and insertion/deletion (indel) polymorphisms detected by SNP calling tools, e.g. SAMtools, Platypus or FreeBayes, into CAPS markers.

**Snake**

08/2017 - 09/2017

<https://github.com/Aviatore/snake.git>**Technologies used:** C++

A console version of a popular game implemented in C++. The game implements different levels and a high score stored in a text file.

## Publications

- **Wesołowski W**, Domnicz B, Augustynowicz J, Szklarczyk M (2021) VCF2CAPS—A high-throughput CAPS marker design from VCF files and its test-use on a genotyping-by-sequencing (GBS) dataset. *PLoS Comput Biol* 17(5): e1008980
- Tokarz KM, **Wesołowski W**, Tokarz B, Makowski W, Wysocka A, Jędrzejczyk RJ, Chrabaszcz K, Malek K, Kostecka-Gugała A (2021) Stem photosynthesis—a key element of grass pea (*Lathyrus sativus* L.) acclimatisation to salinity. *Int J Mol Sci* 22:685
- Kaszycki P, Dubicka-Lisowska A, Augustynowicz J, Piowarczyk B, **Wesołowski W** (2018) *Callitriche cophocarpa* (water starwort) proteome under chromate stress: evidence for induction of a quinone reductase. *Environ Sci Pollut R* 25:8928-8942
- **Wesołowski W**, Szklarczyk M, Szalonek M, Słowińska J (2015) Analysis of the mitochondrial proteome in cytoplasmic male-sterile and male-fertile beets. *J Proteomics* 119:61-74