Yuliia Melnyk

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EDUCATION

•**Wroclaw University of Science and Technology**   *2020 - 2024*
Bachelor's degree in Algorithmic Computer Science   GPA: 4.2

PERSONAL STATEMENT

As a computer science student with a focus on programming, I'm seeking a traineeship that will allow me to apply my skills in a real-world setting. I'm confident in my ability to work collaboratively with others and eager to take on new challenges. I'm particularly interested in opportunities to work on projects related to data science and software engineering. I would love to get to know new people and new program development technologies.

PERSONAL PROJECTS

• **Scientific Matrix Computing**   *2022*
Project made for enormous sparse matrix calculations of equation Ab=x

  – Written in Julia with library sparse Arrays
  – Reduced complexity of operation from $O(n^3)$ to $O(n)$
  – Reduced proccessing time by 80%
  – Increased maximum possible size of matrix accepted by 450 000 elements

• **SPEKE protocol for safe communication**   *2021*
One of classic password authentication protocols

  – Written in Python with shalib
  – Implemented message encoding/decoding
  – Implemented possibility of communication between two people using the program
  – Implemented mechanism that catches messages from someone outside of conversation.

• **Compiler for simple iterative language**   *2022*
Program processes code written in fictional procedural language. Outputs assembly code

  – Written in C++ with Flex lexer and Bison/Yacc parser
  – implemented procedures and variables and function
  – implemented arithmetic operations in assembly.
  – Optimized implemented division/multiplication assembly algorithms by 40%

GROUP PROJECTS

• **Chinese Checkers Game**   *2022*
Game supports from 2 to 6 players. Has possibility of creating and joining game rooms online

  – Written in Java with JavaFx
  – Created GUI for the game board and login
  – Created smart tips of possible moves for each checker chosen by player
  – Organized work flow and assigned tasks
  – Written Client code that works on sockets to allow multiple player connections

SKILLS AND INTERESTS

Languages: English (C1) , Polish (C1) , German (B1) , Ukrainian (Native speaker) , Russian (Native speaker)
Developer Tools: Visual Studio Code , GIT , VIM , SVN , Intellij Idea , MySQL
Programming Languages: Python, Java , C++ , HTML/CSS , Julia , C , Ada , SQL
Soft Skills: Teamwork , Critical Thinking , Resourcefulness , Adaptability , Problem-Solving , Great Communicating Skills
Areas of Interest: Data Science , Artificial Intelligence , Machine Learning