MAKSYM YAHNYSHCHAK

LinkedIn | +447596008802 | **Portfolio** | yahnyshchak@gmail.com | **GitHub**
[in the UK with a right to work until 2026/09 under the Homes For Ukraine Scheme]

SKILLS

- Python | Java | JavaScript | Perl | C | Node | Express | React | SQL | Linux | Git | Raspberry PI
- CI/CD | Agile | Waterfall | Unit testing | OOP | Game Development
- Operating systems | Databases | Computer Networks | AI | Full-stack | Hardware
- English | Ukrainian | Russian - All professional proficiency or above

EXPERIENCE

Software developer   **Home.co.uk**   Cambridge, UK **2022/07 – Present**

- Tech stack (LAMP) consists of Perl, SQL(MariaDB), Linux, and Tortoise SVN.
- Engineered multiple web scrapers that enabled the collection of 100k+ UK properties.
- Created report-generating scripts exposing patterns in UK property data.
- Maintained security (Suspicious IP detection and reporting).
- Optimized SQL to speed up queries by 70%.
- Wrote unit tests and documentation to promote solutions reusability.
- Created web scraper analogy scripts with website relations detection and URL mapping.
- Migrated data from open-source XML geo data sources into SQL tables.
- Used algorithms to speed up duplicate image detection by 90% - from 2 seconds to 0.2.
- Implemented hashing functions to encode unique and decode data from HTML.

Software developer (Work experience)   **Microsoft**   Cambridge, UK **2022/07/01 – 2022/07/14**

- Took part in the research group discussions and analysis to develop an object recognition mobile app for blind individuals (Tai X, Project Tokyo). Wrote computer vision scripts that were able to recognize a simple object such as a fork or keys. Trained the model using Microsoft Azure (Python, Azure).
- Helped to develop a tool for Microsoft amid the pandemic simulating Cambridge's office 3D work environment for the VR experience (C#, Unity).

EDUCATION

Computer Science BSc Hons   **Lancaster University**   Lancaster, UK **2022-2025**

First year (86% 1st class):

- Foundations of Computer Science: Data Structures and Algorithms.
- Software engineering: OOP principles in Java. Procedural programming principles in C.
- Digital systems: Computer architecture, Boolean algebra, C debugging, and Assembly. Built a Compiler for the Assembly language using C.
- Information Systems: Web development principles and good software development practices. Built a full-stack website with HTML, CSS, PHP, and SQL.
- Mathematics as a minor discipline: Calculus, Statistics, Probability, and Linear Algebra.

Second year (on track for 80+% 1st class):

- Operating Systems: Multi-threaded programming, OS design, Memory allocation, File systems, Scheduling, Virtual memory, and many more.
- Computer Networks: TCP/IP, Transfer protocols, implemented Ping, Traceroute, Web server, and Proxy in Python, and debugged Network Topology in IMUNES.
- Databases: Data organization and storage, translating text and requirements into database schemas. Strengthened my knowledge of SQL and Java DB API.
- Advanced Programming: OOP principles in Java. Syntax of Erlang, and JavaScript.
- Software Design: Architectural styles, SOLID principles, class/state diagrams, and UML.
- Human-Computer Interaction: User-friendly software, Usability, and User evaluation.
- Group Project: Developed a Presentation Tool in Java. Improved my teamwork, collaboration, and project planning skills using the waterfall approach.

Final year (1st class expected):

- Embedded Systems
- Advanced Networking
- Artificial Intelligence
- Languages and Compilation
- Distributed Systems
- Security and Risk
- Third-Year Project: Dynamic Network Traffic Filtering using Linux eBPF.

Computer Science BSc Hons   **Lviv Polytechnic National University**   Lviv, Ukraine **2021-2022**

- Studied C, Python, OOP principles, data structures, algorithms, and mathematics.
- Completed first year with an average grade of 91% making me the top student in my cohort.

PERSONAL PROJECTS (GitHub | Portfolio)

Self-Driving Car Reinforcement Learning (2024)   **GitHub - Self-Driving Car**

   (Python | TensorFlow | Pygame)
- Trains AI agent to navigate a complex racing environment using reinforcement learning.
- Utilizes Double Deep Q-Learning algorithm for training the agent.
- The agent learns the environment using sensors measuring distances to the walls.
- Agent receives rewards for making the progress through the track.
- Allows for both training from scratch and loading a pre-trained model.
- In training mode, displays a graph to visualize agent training progress to assist with finetuning.
- In debugging mode, displays the car's radars, checkpoints, rewards, and current level of randomness.

MERN full-stack website to track email drafts (2023)   **Try Task Manager | GitHub - Task Manager**

(Javascript | React | Node | Express | MongoDB)
- Users can create, manipulate, and delete topics.
- Supports authorization and account creation.
- Securely stores user data in the MongoDB database.
- Additional topic remarks such as last-modified date and issue number are also present.

AirHockey 2 player 2D game (2023)   **GitHub - Hockey**

(Java | Gradle)
- Two players and one puck. One of the players has to score 7 goals to win.
- Realistic physics simulation for puck reflection, acceleration, and resistance.
- Cheat codes are available for the players to manipulate the environment.