

# DENIS VLAS

## SOFTWARE DEVELOPER

Republic of Moldova | vlasdenis2008@gmail.com | <https://denisvlas.github.io/portfolio/> | +37368135048

### SUMMARY

One of my main objectives is to build connections and collaborate with individuals passionate about technology in an environment that fosters the exchange of ideas and innovation. I am constantly seeking opportunities to engage in projects that contribute to the development of the technical field and bring innovative solutions to the digital world.

### TECHNICAL SKILLS

#### Frontend

React js      Responsive design  
Typescript      CSS  
Javascript      HTML

#### Backend

Javascript      Python  
Node js      Flask  
Express js      Web scraping  
GraphQL      Machine learning  
Hasura      Deep learning  
SQL      AI content generation  
REST API      AI agents

#### Tools & others

Git  
Firebase  
Docker  
Testing  
Debugging  
Vps hosting

### PROFESSIONAL EXPERIENCE

#### Internship at Carasent

Mar-Jun 2025

- Implemented biometric authentication (WebAuthn) integration on Ad Opus (frontend + backend).
- Used React (TypeScript), Tada GenQL, GraphQL, Hasura, MobX-State-Tree, company proprietary libraries.
- Collaborated with UI/UX from Figma; managed tasks via Jira and Bitbucket.
- Maintained and updated internal libraries to improve system capabilities and security.
- Designed and implemented mobile-optimized document scanning feature (React frontend, Node.js + Express backend).
- Applied advanced image processing: grayscale, contrast enhancement, sharpening, binarization.
- Created a custom Python ML model for enhanced image binarization surpassing OpenCV.
- Implemented automatic document edge detection with adjustable masking.
- Converted processed images into downloadable PDFs; supported optional OCR integration.

#### Internship at ISHUNEA TECH SOLUTIONS

Feb-Jun 2024

Contributed to the development of easyreser.io, an ERP system for the service industry, enabling efficient management of operations. Developed statistical components using React.js and TypeScript. Created interactive charts and dashboards to visualize data. Used Git and Bitbucket for version control and code management. Collaborated closely with backend and design teams for seamless integration. Enhanced user experience through intuitive interfaces. Implemented designs from Figma to ensure consistency and efficiency in user interface development.

**University internship  
at ISHUNEA TECH SOLUTIONS**

**Sep-Oct 2023**

Developed a full-stack Kanban task management application with user/admin functionalities. Utilized React, TypeScript, Git, MySQL, and Express. Implemented features such as project management, user authentication, task creation within projects, task assignment to registered users, task editing, status updates via drag-and-drop functionality, and integration of a text editor for descriptions and comments.

**EDUCATION**

**Technical University of Moldova, Chişinău**

**Sep 2022 - Jun 2025**

- Bachelor of Applied Informatics

**Theoretical Lyceum Mihail Sadoveanu, Hînceşti**

**Sep 2019 - May 2022**

- Mathematics and science profile

**EXTRACURRICULAR ACTIVITIES**

**Hackathon Participant**

**Nov 2024**

**8th CASSINI Hackathon, Mediacor, Chişinău**

**Subject:** EU Space for Defence & Security – Unmanned Drone Applications for Defence & Security Operations

**Project:** Fire Detection & Situational Awareness System for Drone Surveillance

**Summary:** The goal of the project was to build an AI-powered system that detects fire and analyzes the surrounding environment in real time, sending alerts with geolocation and contextual information (e.g., presence of people or obstacles) to assist emergency responders. The system was designed to operate through unmanned aerial drones for use in defense, disaster response, and public safety scenarios.

**Technologies Used:** Python, OpenCV, computer vision techniques

**My Role:**

- Designed and implemented the core fire detection module using image analysis techniques
- Developed the Python backend responsible for processing live drone footage

**Impact:** Enabled rapid identification of fires and enhanced situational awareness for emergency responders, supporting faster intervention and safer rescue missions in high-risk areas.

**Hackathon Participant**

**Sep 2024**

**DeepTech GigaHack, Tekwill, Chişinău**

**Subject:** Building a virtual assistant to handle customer support inquiries for a local telecom provider

**Project:** AI Support Assistant for StarNet

**Summary:** Developed a web-based AI assistant designed to answer customer questions related to StarNet services, technical issues, and company information. The assistant featured a React frontend and a Python backend, integrated with Groq API and powered by the LLaMA 3.2 model to provide real-time natural language responses.

**Technologies Used:** React, TypeScript, Python, FastAPI, Groq API, LLaMA 3.2, REST API integration, context-aware prompting

**My Role:**

- Collected and structured the knowledge base content from public and internal StarNet sources
- Set up and deployed the Python backend server to handle API requests and integrate with the Groq LLM
- Contributed to prompt engineering and system logic for accurate AI responses
- Collaborated with the frontend developer to ensure seamless assistant-user interaction

**Impact:** Delivered a functional assistant prototype capable of reducing support burden by automating responses to common customer queries, showcasing AI integration potential for telecom services.

**Hackathon Participant****Mar 2024****Artificial Intelligence Hackathon, Mediacor, Chişinău****Subject:** Detecting deepfake content using AI and computer vision technologies**Project:** Deepfake Detector extension for browser**Summary:** Built a deepfake image detection system using a custom CNN model trained on a Kaggle dataset. The system classified manipulated images based on facial features and was extended into a working Chrome Extension that processed YouTube video streams in real time, sending frames to a backend API and returning a deepfake probability score.**Technologies Used:** Python, TensorFlow/Keras, OpenCV, NumPy, Image preprocessing, data augmentation, Custom CNN architecture (2 convolutional layers, 64 filters, 3×3 kernel), Google Chrome Extension (JavaScript frontend + Python backend API)**My Role:**

- Fully responsible for the entire development process, as the rest of the team had backgrounds in journalism and no programming experience
- Sourced and prepared the dataset from Kaggle
- Implemented image preprocessing and normalization (100×100 grayscale)
- Designed, trained, and optimized the CNN model using TensorFlow
- Developed and integrated the Chrome extension with real-time backend inference
- Evaluated model performance and improved accuracy through data augmentation

**Impact:** Contributed to the field of digital security by enabling the detection of falsified media content, relevant in combating misinformation and media manipulation.**Hackathon Participant****Jun 2023****Artificial Intelligence Hackathon, Mediacor, Chişinău****Subject:** Predicting execution time for reports based on historical data and input parameters**Project:** : Report Time Prediction**Summary:** Developed a machine learning model that predicts the execution time of reports based on various input parameters. The dataset included start and end times, along with multiple influencing factors. The goal was to optimize report scheduling and resource allocation by accurately forecasting the required time for each report.**Technologies Used:** Python, NumPy, pandas, scikit-learn.**My Role:**

- Performed data cleaning and preprocessing to prepare the dataset for modeling
- Contributed to the development and fine-tuning of the prediction model
- Collaborated with the team to analyze model results and improve accuracy

**Impact:** Improved the efficiency of resource planning and workload distribution by enabling accurate time predictions for report generation. Additionally, the system allowed users to be notified in advance about the estimated waiting time, enhancing transparency and user experience.**Hackathon Participant****Mar 2023****Data Science Hackathon 2023, Tekwill, Chişinău****Subject:** Perception of foreign tourists and the Moldovan diaspora about the Republic of Moldova as a tourist destination**Project:** : Tourist Spending Estimator for Moldova**Summary:** Built a mobile app that estimates the potential spending of foreign tourists and diaspora visitors in Moldova, based on variables such as age, country of origin, and travel profile. A linear regression model was developed to generate accurate spending predictions, aiming to provide insights that support Moldova's development as a data-driven travel destination.

**My Role:**

- Contributed core ideas for the app concept and use case
- Helped clean and preprocess data for the regression model
- Created data visualizations (charts) to support analysis and presentation
- Collaborated on the design of the mobile app interface
- Participated in the project presentation and pitching session

**Impact:** Provided valuable insights into tourist behavior and spending patterns through data-driven predictions, helping tourism stakeholders make informed decisions. The tool has the potential to assist policymakers and local businesses in tailoring services, marketing strategies, and infrastructure investments to better suit the needs of different visitor groups.

**Hackathon Participant****Dec 2022****Hackathon 25 ans ensemble, UTM, Chişinău**

**Subject:** Choosing one of the 17 Sustainable Development Goals and building a solution that supports it

**Project:** : Eco-Label Scanner Mobile App

**Summary:** Developed a mobile app prototype in Figma that scans eco-labels on consumer products, helping users quickly understand their meaning and make responsible, sustainable purchasing decisions. The solution supported several UN Sustainable Development Goals, including SDG 12 (Responsible Consumption), SDG 13 (Climate Action), SDG 3 (Good Health), and SDG 17 (Partnerships).

**My Role:**

- Designed and built the full app prototype in Figma
- Contributed to UX/UI decisions to ensure a user-friendly and educational experience
- Participated in team discussions to align the app's features with SDG objectives

**Impact:** Empowered consumers to make environmentally responsible choices by providing instant, accessible information about eco-labels. The app encourages ethical consumption and promotes market transparency, supporting the transition toward a more sustainable economy and helping to raise awareness about eco-friendly products and certifications.

**LANGUAGES**

Romanian - native

Russian - native

English - B1

French - studied in school from 1st to 9th grade