Ivan Andrei

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About Me

Computer Science graduate with strong foundations in programming, AI, and game development. Experienced in building machine learning models, developing interactive applications, and delivering optimized solutions.

Education

Bachelor's in Computer Science Graduated 2025
West University of Timisoara, The Faculty of Mathematics and Computer Science. [2, 3, 5]

Experience

Introductory DevOps & Cloud Concepts Jul 2024
SoftServe
A 4-week program covering Linux basics, networking, cloud fundamentals, AWS services, Infrastructure as Code with Terraform, virtualization, containers, and Kubernetes, including hands-on projects and mentoring.

Projects

Batchelor's Thesis: Pathfinding Elements and AI in Video Games
Technologies: C#, Unity Engine

- Developed an artificial life simulation game in Unity that demonstrates emergent behaviors in a 3D environment.
- Implemented autonomous agents exhibiting complex interactions and decision-making processes, showcasing the principles of artificial life and complex systems through dynamic simulations.
- GitHub - Microcosm (Batchelor's Thesis Paper)

Neural Network - Handwritten Digit Recognition
Technologies: Python, NumPy, Matplotlib, Tkinter

- Developed a custom neural network from scratch to recognize handwritten digits using the MNIST dataset.
- Implemented core components including dense layers, ReLU activation, softmax output, and back-propagation for training.
- Designed a user-friendly GUI with Tkinter for real-time digit input and prediction.
- GitHub - NeuralNetwork-Digit

Chess Project - Interactive Chess Game Application
Technologies: Python, Pygame, Minimax Algorithm, Tkinter

- Developed an interactive chess game featuring a graphical user interface using Pygame and Tkinter.
- Implemented AI opponent logic with the Minimax algorithm to provide challenging gameplay.
- Focused on smooth user experience and move validation.
- GitHub - Chess-Project

Kaggle Competition - Podcast Listening Time Prediction
Technologies: Python, Pandas, scikit-learn

- Participated in a Kaggle competition aimed at predicting how long users would listen to a podcast episode based on session and content metadata.

- Preprocessed the dataset by handling missing values, encoding categorical variables (e.g., one-hot encoding), and performing feature scaling.
- Trained regression models to predict listening time and evaluated them using metrics such as MAE and RMSE.

ConnectTM - City Issues Reporting Mobile Application
Technologies: JavaScript, React Native, Expo Go, Firebase

- Developed a mobile app for ITFEST that enables users to report and track city issues efficiently.
- Integrated real-time data storage and user authentication using Firebase, and utilized Expo Go for rapid development and testing.
- GitHub - ConnectTM

Other Projects
- Party App
- AStar-TicTacToe

Technical Skills

- **Programming Languages:** Python, C#, JavaScript, C++
- **Web Development:** Flask, .NET, React, Next.js, HTML, CSS
- **Machine Learning:** TensorFlow, PyTorch, Neural Networks, NumPy, Pandas
- **Game Development:** Unity, DOTS, Blender, Photoshop, Aseprite
- **Tools & Platforms:** MySQL, Git, Jupyter, Expo GO

Languages

- **Romanian:** Native
- **English:** Professional Level (B2/C1)