ANDRÁS ILONCZAI

Student lecturer

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WORK EXPERIENCE

Demonstrator from Programming Languages 2   **Part-time**

Student lecturer   Sep 2024 – Present

- My task was to help the students of the Programming Languages 2 course to learn the Java programming language.
- During the exercises, I helped the students to understand the material and answer the questions that arose.
- Holding regular consultations with students, providing individual assistance and mentoring to those who needed extra support.
- Collecting valuable feedback from students and tutors to improve and develop the course.

Avander Software Development   **Hybrid (HO / Budapest)**

Junior Software Developer   Jun 2024 – Oct 2024

- Participated in an Agile team, working in four-week sprints with daily standups.
- Contributed to frontend and backend tasks, including bug fixing and new feature development.
- Gained experience in full-stack development, problem-solving, and collaboration.

Demonstrator from Programming Languages 1   **Part-time**

Student lecturer   Feb 2024 – May 2024

- In my role as a Demonstrator for Programming Languages 1 at the University of Debrecen, I helped students understand fundamental programming concepts and languages.
- I conducted regular consultations, provided individual assistance, and collected valuable feedback to enhance the course.

EDUCATION

University of Debrecen   **Debrecen, Hungary**

Bachelor's degree in Computer Science Engineering   Sep 2021 – Feb 2025

- **Courses**: Calculus, Mathematical Statistics, x86 Assembly, Mathematics

Nyíregyházi Egyetem Eötvös József Gyakorló Általános Iskola és Gimnázium   **Nyíregyháza, Szabolcs-Szatmár-Bereg, Hungary**

High school in Advanced maths faculty   Sep 2021 – Jun 2025

- **Courses**: Informatics, Mathematics

PROJECTS

Software Development for Engineers

University of Debrecen   Sep 2024 – Feb 2025

- Developed a web application for a fictional bakery as part of a university project, focusing on order management and customer communication.
- Handled the frontend development using React and Tailwind CSS to create a responsive and user-friendly interface.
- Collaborated in a team of four, adhering to software development best practices.

Engineering Calculator

University of Debrecen   Mar 2024 – Aug 2024

- This application, designed in Python using the PyQt5 library, offers more than simple arithmetic—it includes modules for complex mathematical functions such as calculus, differential equations, probability, statistics, and logical operations.
- The thesis covers technology choices, including Python's object-oriented features, exception handling, and graphical libraries.
- This calculator's user-friendly interface integrates multiple mathematical tools into one accessible application, demonstrating the intersection of mathematics and programming in practical engineering tasks.

PHP Login Interface

University of Debrecen   Feb 2024 – May 2024

- Developed a responsive web application featuring a secure and user-friendly login form using HTML, CSS, and PHP. The form includes real-time validation for input fields, ensuring data accuracy before submission.
- Custom CSS styling provides a polished and professional UI, with smooth transitions and responsive layout adjustments for mobile and desktop users.

- The backend PHP script processes login credentials securely, authenticating users against stored data and redirecting them based on access rights.
- Designed with accessibility in mind, offering seamless navigation and interaction across all devices.

Rock Paper Scissors Web Game

University of Debrecen Feb 2024 – May 2024

- Developed an interactive Rock-Paper-Scissors game using HTML, CSS, and JavaScript.
- The game allows players to choose between rock, paper, or scissors, competing against a computer opponent with randomized choices.
- The interface includes dynamic scoring and feedback, with each match result updating player and computer scores, along with a tie counter.
- CSS animations add a hover effect to each option for an engaging user experience. This project demonstrates front-end development skills, focusing on DOM manipulation, event handling, and responsive design.

Computer graphics

University of Debrecen Feb 2024 – May 2024

- In my Computer Graphics course at the University of Debrecen, i have successfully completed these three projects, each involving complex graphical programming and interactive elements.
- Project 1 - Bouncing Circle You created a dynamic circle that moves horizontally, bouncing off window edges, with color gradients from red to green. You also added a user-controlled horizontal line and implemented color changes based on the circle's position.
- Project 2 - Bézier Curve Drawing Application This project involved creating a third-degree Bézier curve with draggable control points. You enhanced the interface with a control polygon, color customization, and features allowing users to add or remove control points dynamically.
- Project 3 - 3D Cube Scene with Camera and Lighting Here, you set up a 3D environment with a camera that rotates around a central cube and displays two additional cubes in view. You configured perspective projection and enabled camera movement along the z-axis, completing all required features.

Systems oriented programming

University of Debrecen Feb 2024 – May 2024

- Developed a data communication application in C for efficient data transmission using both socket and file-based methods.
- The project includes a unique bitmap (BMP) image generator that visually represents received numerical data. Key features include structured data handling via sockets and files, real-time signal management, and file creation with custom BMP headers and pixel arrays.
- This solution showcases capabilities in low-level systems programming, integrating file I/O, socket programming, and bitmap image generation in a seamless communication protocol.

Embedded Systems Projects

University of Debrecen Sep 2023 – Feb 2024

- Hands-on Python projects demonstrating embedded systems concepts, developed for Raspberry Pi.
- Covers practical applications of sensors, actuators, and communication protocols, showcasing both fundamental principles and advanced implementations in embedded systems.

Java Image Scrolling Website

University of Debrecen Sep 2023 – Feb 2024

- Created a Java-based application that transforms a folder of images, including nested folders, into a fully navigable website.
- This tool automatically scans directories, generates HTML pages for each image, and links them with navigation controls for seamless scrolling.
- Users can explore image galleries directly in their browsers, with intuitive forward/backward navigation.
- This project showcases expertise in Java file handling, automated HTML generation, and dynamic webpage creation, providing an efficient way to turn local image collections into a browsable web format.

Chat application

University of Debrecen Feb 2023 – May 2023

- Built a Chat application in C# using wpf.

Basic System Monitor program

University of Debrecen Feb 2023 – Feb 2023

- Developed a Python-based system monitoring tool that tracks CPU, memory, and disk usage, logging data at regular intervals.
- The tool creates daily log files, enabling users to monitor system performance over time. Users can configure the monitoring duration or retrieve real-time metrics directly to the console.

- This project demonstrates proficiency in Python scripting for real-time data collection, file management, and system resource analysis.

Morse Android App

University of Debrecen   Feb 2023 – Feb 2023
- Developed an Android app that converts text into Morse code signals using the device's flashlight.
- Users can input text either through the keyboard or by extracting it from an image using OCR, making the app versatile for various input methods.
- This project combines text recognition with hardware control, allowing Morse code signaling in real-time, ideal for both practical and educational use.

LICENSES AND CERTIFICATIONS

IT Specialist Python   ID: DKQa-4wb2
Issued by *Certiport - A Pearson VUE Business*   May 2024

International Computer Drivers License - Level One (ICDL)   ID: HU000005938
Issued by *ECDL*   Jul 2021

SKILLS, LANGUAGES, INTERESTS

- **Languages**: English (Professional Working Proficiency)
- **Programming Languages**: Python, Java, C, C#, C++, SQL, x86 Assembly, Matlab
- **Web Development**: PHP, HTML, CSS, JavaScript, Angular, TypeScript
- **Tools & Technologies**: OpenGL, Android Studio, Azure DevOps Services, LabView, Microsoft Excel, Linux, Git, WPF
- **Embedded Systems**: Raspberry Pi
- **Operating Systems**: Linux, Windows
- **Interests**: Programming, Hardware and Embedded Systems, Video Games, Anime, Reading, Sports