



# ING. MARKO KUNDRÁK

Custom Software Engineer

## Contact



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## Education

### Master's degree in Informatics and Electrical engineering

Technical University of Košice

2017-2022

Letná 9, 040 01, Košice

### Graduation with a high school diploma

Secondary School of Electrical Engineering in Košice - Technical Lyceum

2013-2017

Komenského 2, 040 01 Košice

## Technical Skills

Lua	● ● ● ○
Roblox Studio	● ● ● ○
Python	● ● ○ ○
JavaScript	● ● ○ ○
Git	● ● ○ ○
HTML	● ● ○ ○
CSS	● ● ○ ○
Azure	● ● ○ ○

## Academic Experience

### Master's Thesis - Automated data collection using UAV

Technical University of Košice

May 2022

- Developing both the software and hardware part of the UAV model
- Collection of a large volume of data from the microphone and camera in real time
- Identification of students and their emotions during lectures
- Saving data in the database and displaying them in the web application
- Using graph and tabular representation of data in real time
- **Technologies:** C, JavaScript, Python, Arduino, Firebase, CSS, HTML

### Bachelor Thesis - Smart Thermometer

Technical University of Košice

May 2020

- Responsive cross-platform application for monitoring air temperature and humidity
- **Technologies:** JavaScript, HTML, CSS, C, Firebase, Apache Cordova, Arduino, NodeMCU

### Semestral project - Smart Home Model

Technical Lyceum

February 2017

- Web application for controlling and monitoring various sensors and electrical devices of smart house model
- **Technologies:** PHP, HTML, CSS, MySQL, JavaScript, phpMyAdmin, Arduino, Ethernet Shield, PIR Motion sensor, Touch sensor, Step/Servo motor, RFID, Buzzer, LCD Display, Temperature and Humidity sensor

## Language

Slovak

English



## Soft Skills

- Enthusiastic about continuous learning and adept at quickly mastering new technologies
- Experience with project management, including planning, executing and closing projects efficiently
- Experienced in working in scrum environments, conducting code reviews, and documenting processes and solutions

# Professional Experience

## Accenture - Full Remote

### Mixy2 - The Intelligent Bartender

May 2021 - May 2022

- Led the software development of Mixy2, an automated bartender system, using Python and AWS services.
- Implemented voice-controlled interactions and user communication features for seamless drink ordering.
- Integrated facial recognition and sentiment analysis to enhance user experience.
- Designed and developed data storage solutions to collect and analyze user interactions for statistical insights.
- **Technologies:** Python, AWS DynamoDB, Lambda, Rekognition, S3, IoT, Alexa Skills Kit, Git

### CPG Metaverse in Roblox

Feb 2022 - April 2022

- Developed a Point & Level system for a Roblox experience showcasing the process of making healthy food.
- Implemented data persistence using datastores to track player progress.
- Designed and integrated a responsive GUI, interactive NPC dialogs, and object animations using TweenService.
- Collaborated with the team using Trello and Mural for project management.
- **Technologies:** Roblox Studio, Lua, Trello, Mural

### Prada - Virtual Fashion

Aug 2022 - Sep 2022

- Designed and developed a proof-of-concept virtual try-on application for clothing.
- Researched and explored state-of-the-art XR technologies in virtual fashion.
- Implemented user figure detection using multiple vertices in Unity and applied virtual clothing using custom meshes.
- **Technologies:** SparkAR, Unity, Lens Studio, Git

### ChangiVerse PoC

Sep 2022 - Nov 2022

- Developed a metaverse experience in Roblox for Changi Airport, Singapore, as part of a successful client tender.
- Led the development while collaborating with five 3D artists, guiding them through Roblox Studio and Lua, despite their initial lack of experience.
- Created a digital twin of Jewel, including a racetrack, night light show, dynamic day-night cycle, waterfall, background music for different areas, custom animated NPCs with dialogues, and multiple GUIs.
- Won the tender, securing Changi Airport as a new client for Accenture, leading to the project's transition into the MVP phase.
- **Technologies:** Roblox Studio, Lua, Trello, Mural

### ChangiVerse MVP

Dec 2022 - Dec 2023

- Designed and developed a Roblox experience incorporating iconic gaming and visual elements from Changi Airport, along with additional gamification features as defined by the client.
- Independently implemented key gameplay features, including a plane configurator, flying mechanics, UGC importing and publishing, audio and lighting effects, badges, go-kart racing, collectibles, control tower mechanics, and a points & level system.
- Integrated game analytics to track user engagement and performance.
- Collaborated daily with the client and delivery lead to define and refine development tasks for the team.
- **Game** - <https://www.roblox.com/games/11576508871/ChangiVerse> (~9m visits)
- **Video** - <https://www.youtube.com/watch?v=7GbKJ8GIFy4>
- **Technologies:** Roblox Studio, Lua, Trello, Mural

### Virtual Office in Roblox

Nov 2022 - Jan 2023

- Led the development of a Roblox experience designed for new joiners, featuring a digital twin of the Client Innovation Studio in Slovakia with interactive gaming and educational elements.
- Served as team leader and Scrum Master, ensuring smooth development workflows and Agile project execution.
- Coordinated development tasks, managed sprints, and facilitated communication using Microsoft Whiteboard and Azure DevOps.
- **Technologies:** Roblox Studio, Lua, Microsoft Whiteboard, Azure DevOps, Git

## Carnival in Roblox

Nov 2023 - Jan 2024

- Led a team of 10+ developers and 3D artists as Team Leader and Scrum Master, ensuring efficient collaboration and Agile development.
- Communicated daily with the client to align project goals and deliverables.
- Developed a Roblox experience featuring a digital replica of the Carnival Sun Princess cruise ship, incorporating realistic environments and gamification elements.
- Managed sprints, task assignments, and development workflows using Azure DevOps and Mural.
- **Technologies:** Roblox Studio, Lua, Azure DevOps, Git, Mural

## AMF - Accenture Metaverse Framework

Jan 2024 - June 2024

- Developed and managed a Verdaccio feed for Unity and Unreal packages, enabling seamless package harvesting by developers.
- Designed and implemented an Azure pipeline to automate the cloning of packages from the AMF application to a container registry.
- Maintained and expanded APIs to facilitate data exchange between a JavaScript application and the YAML-configured pipeline, using PowerShell scripting.
- **Technologies:** Azure DevOps, PowerShell, Visual Studio, YAML, Docker

## ATA - Accenture Talent Assistant

June 2024 - Oct 2024

- Analyzed and optimized existing codebases in Python and JavaScript.
- Extracted and transformed data from various file formats into structured .txt files for use in RAG (Retrieval-Augmented Generation) operations on ChromaDB.
- Generated embeddings from processed data using LangChain.
- Designed and implemented custom metadata structures for Chroma Vector Database.
- Developed an API schema following the OpenAPI standard.
- Deployed applications on Azure using Docker CLI.
- **Technologies:** Python, JavaScript, CSS, HTML, Shoelace, Swagger, OpenAPI, LangChain, ChromaDB, Azure OpenAI, Azure Services

## ACA - Accenture Credentials Assistant

Oct 2024 - Dec 2024

- Reviewed and improved codebases written in Python and JavaScript for better performance and maintainability.
- Extracted and organized data from multiple file formats, converting it into structured .txt files for RAG (Retrieval-Augmented Generation) processes on ChromaDB.
- Utilized LangChain to generate embeddings from the transformed data for seamless integration into the system.
- Engineered custom metadata structures to optimize the storage and retrieval of information in the Chroma Vector Database.
- Developed an API schema that adheres to the OpenAPI standard to ensure smooth integration and consistent documentation.
- Deployed applications on Azure utilizing Docker CLI, ensuring efficient containerization and deployment.
- **Technologies:** Python, JavaScript, CSS, HTML, Shoelace, Swagger, OpenAPI, LangChain, ChromaDB, Azure OpenAI, Azure Services

## Roblox Music Game - Dutch Orchestra

Dec 2024 - Mar 2025

- Developing musical RPG multiplayer based game with educational character
- Working on core game concepts like inventory, shop, NPCs, tutorial, quest, leveling, ...
- Creating responsive GUI
- Implementing sound effects and background audio
- **Technologies:** Roblox Studio, Lua, Trello, Mural

 **Portfolio** - <https://markokun.github.io/marko-kundrak> 