

Ijtihed Kilani

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EDUCATION

Aalto University

Espoo, Finland

Bachelor of Science in Computational Engineering, Minor in Computer Science

Relevant Coursework: Data Structures and Algorithms, Software Engineering, Number Theory

SKILLS AND TECH STACKS

Programming Languages: Python, C#, JS, HTML, CSS

Frameworks and Libraries: Flask, Unity, OpenCV, TensorFlow, Jinja2, Bootstrap, TailwindCSS, React

Tools and Platforms: Git, Docker, PocketBase, Google Cloud, VSCode, Unity Editor

EXPERIENCE

Research Assistant

Dec 2022 – May 2024

King Abdulaziz University, Biotechnology

Jeddah, Saudi Arabia

- Analyzed genetic (SNP) and hematological (CBC) data from 2,200+ patients, identifying altitude-specific molecular and physiological hypoxia adaptations.
- Authored 3 peer-reviewed publications on genetic clustering and hematological variations.
- Mentored 5 researchers and led a team in experimental design, data analysis, and biotechnology R&D.

PROJECTS

The Yappin' Spirit | C# (.NET), Unity, Python (OpenCV, DeepFace, Flask)

- Developed a real-time emotion detection game integrating OpenCV with Unity to capture and analyze player emotions via webcam.
- Implemented facial recognition algorithm for interactive gameplay which allows response based on emotions.
- Deployed the game entirely on itch.io and presented it in a hackathon to 20+ participants and organizers.

Maze Maverick | C# (.NET), Unity, Blender

- Developed and deployed a 3D arcade game inspired by "Pac-Man" to Steam, with procedurally generated mazes.
- Implemented a finite state machine (FSM) for enemy AI which allows ghosts to exhibit different behaviors.
- Integrated Unity's post-processing stack for visual effects, including bloom and ambient occlusion.

Full Stack Web-app with Database and User Authentication | Python, PocketBase, JS, Bootstrap, CSS, HTML

- Deployed a Flask app integrating 'qrcode' and 'Pillow' for QR code generation, Base64 encoding.
- Used image embedding with PocketBase for data persistence and Flask-Migrate for migrations.
- Implemented secure user authentication, session management, and an API for image downloads, with Jinja2 for dynamic templates and JS for real-time interactivity.

Quran App | Dart (Flutter)

- Deployed a Quran application using Flutter with features such as page pinning and surah scrolling.
- Used procedurally generated pics for the display of surahs and designed for "old school" users due to average age.

Classic Bounce | C# (.NET), Unity

- Developed a remake of the classic "Bounce" game using Unity, featuring basic physics and levels.
- Published the game on itch.io, and updated the mechanics based on reviews.

PUBLICATIONS

Comparative Study of Complete Blood Count Between High-Altitude and Sea-Level Residents | *Cureus*, Sep 8, 2023 | **Second Author**

Single Nucleotide Polymorphisms in HIF-1A, VEGFa, & VHL Genes | *Advancements in Life Sciences*, March 6, 2024 | **Second Author**

Comparative Study of the Factors Affecting the Microbiota Presence in the Human Nasal Cavity After Covid-19 Influence | *Bioscience Research*, Nov 15, 2023 | **Third Author**