MINAS KATSIOKALIS

XR Software Engineer

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SUMMARY

I am a passionate eXtended Reality (XR) Software Engineer and Researcher specializing in Augmented Reality (AR). I have experience on both handheld and Head-Mounted Display (HMD) XR applications and I continuously explore the vast potential of XR technology. I am investigating collaborative experiences, multi-modal interactions, and perception in XR environments (AR/VR/MR). My goal is to contribute to the advancement of immersive technologies and uncover innovative ways to enhance user experiences.

SKILLS

Languages:	C#, Python, JavaScript, HTML/CSS, C/C++, SQL
Engines:	Unity3D, Unreal
AR SDKs:	AR Foundation (ARCore/ARKit), Vuforia, MRTK (OpenXR), Lightship ARDK
Platforms:	Hololens2, Meta Quest Pro, Android, iOS
Versioning:	Git - Github/Bitbucket

EXPERIENCE

10/2021 – Present **AR Software Engineer | Full Time** **Up2metric P.C.**
- Design & Implementation of Mobile AR applications (Android/iOS).
- Troubleshooting and problem-solving of AR related issues.
- Integration of REST API calls into front-end interfaces.
- Responsible for prototyping, building and maintaining AR features.
- Research on XR standards and specifications.
- Participation in HORIZON EU Research Projects (xr4drama, SINCERE)

`Unity3D  /  C#  /  AR Foundation  /  Vuforia  /  Android(ARCore)/iOS(ARKit)  /  Figma`

9/2021 – Present **XR Software Engineer & Researcher | Full Time** **Technical University of Crete**
- Design & Implementation of XR HMD applications (Hololens2/Meta Quest Pro).
- Research on XR Collaborative environments, and moltimodal communication techniques.
- Prototyping and testing on AR HMD features.
- Responsible for management of human resources and effective communication.
- Publication and attendance on international conferences in the field of XR.
- Paper reviewer in IEEE VR 2023 & 2024.
- Participation in HORIZON EU Research Projects (SUN XR, VARCITIES).

`Unity3D  /  C#  /  MRTK  /  OpenXR  /  Vuforia  /  Hololens2 | Meta Quest Pro  /  HCI`

2022,2023 Spring Semesters **Academic Teaching Assistant | Part Time** **Technical University of Crete**
As post-graduate student I contributed to my supervisor's courses:
- **Graphics Course (Undergraduate - 4th year)**:
  - Teaching Unity3D to students.
  - Preparation and testing semester projects (games in Unity3D)
- **Human-Computer Interaction (HCI) Course (Postgraduate)**:
  - Preparation and evaluation of course's material.
  - Organization & testing of semester project (use-cases, usability evaluation, personas, UX design, prototyping & implementation of a web app)

`Unity3D  /  C#  /  HCI`

9/2018 – 5/2020 Diploma Thesis **AR Researcher & Developer | Part Time** **Technical University of Crete**
- Develop a Mobile AR application for Android devices.
- Integrate navigation system using Mapbox SDK.
- Research and testing on various AR SDKs: Vuforia, Wikitude, ARCore, ARkit etc.
- Research on the field of Mobile AR (MAR).

`Unity3D  /  C#  /  AR Foundation  /  Vuforia  /  ARCore  /  Wikitude`

EDUCATION & TRAINING

9/2021 - Present **Master of Science in Computer Science and Engineering (M.Sc - 90 ECTS)** **Technical University of Crete**
Master's by Research, on the field of Augmented & Mixed Reality:
- Interaction Techniques and User Interfaces
- Multimodal AR
- Collaborative AR
- Human perception/cognition in AR

| 2020 | **Integrated Masters in Electrical and Computer Engineering** | |
| | **(MEng - 300 ECTS)** | Technical University of Crete |

Diploma Thesis: "Outdoors Mobile Augmented Really for Coastal Erosion Visualization, based on Geographical Data" a Mobile AR application for Android devices, developed in Unity3D game engine.

| 1/2018 – Present | **Member of SURREAL TEAM - T.U.C Graphics Lab** | SURREAL TEAM @ T.U.C |

• Exposed to AR/VR Development Techniques, Game Development and Unity3D.
• Participation in Open Science Days, showcasing AR and VR experiences to public audience.
• Presentations to famous researchers in the field of graphics.

PROJECTS

| AR HMD | **GoNature AR** | GitHub repo |

An AR experience, designed for Hololens2 devices, tailored for non-expert users utilizing mostly speech and audio interactions. The app communicates with a network of sensors through a REST API, and adapts dynamically the visual & audio effects and alternates the narration.
Stack: Unity3D 2020.3, MRTK 2.8 (OpenXR), RestSharp, URP 10.7, Unity VFX.

| Mobile AR | **CZAR: Georgioupolis** | GitHub repo |

Diploma Thesis Project: an AR mobile application that utilizes Mapbox for maps and navigation and AR-Core for AR capabilities. It was designed for on-site coastal erosion visualization in the area of Georgioupoli in Crete island in Greece.
Stack: Unity3D 2019.3, ARFoundation 3.0 (ARCore), URP 6.9, Mapbox SDK 1.4

| Mobile AR | **AlphabetARy** | GitHub repo |

An AR mobile application that makes the procedure (for young children) of learning the Greek alphabet more fun. The application made using Vuforia for Image tracking. Card design made by me, and act as the image targets for the augmentation.
Stack: Unity3D 2020.3, Vuforia 9.8.5

| AR/VR HMD | **XR Collaboration** | Expected Publication: Q1 2024 |

Research project that aims to evaluates the effectiveness of audio and visual cues in XR collaborative environments. The experience is designed for Hololens2 and Meta Quest Pro and acts as a cross-reality medium where users interact both in AR and VR. **[Under Development]**.
Stack: Unity3D 2022.3, MRTK 3.0 (OpenXR), Unity NetCode, Vuforia 10.19

| Desktop Game | **UnSentenced** | Itch.io |

A game that created for a the Brackeys GameJam 2023.1 with the theme "An end is a new Beginning". It was a collective effort of 8 person-team. Available on: WebGL and Windows. **Role: Lead Developer**.
Stack: Unity3D 2021.3, Firebase

Only some personal or publicly available team projects. More on GitHub.

PUBLICATIONS

| 6/2023 | **ACM International Conference on Interactive Media Experiences (IMX' 23)** | ACM Library |

GoNature AR: Air Quality & Noise Visualization Through a Multimodal and Interactive Augmented Reality Experience

| 6/2022 | **7th International Conference on Smart and Sustainable Technologies (SpliTech)** | IEEE Xplore |

On the integration of nature-based solutions with digital innovation for health and wellbeing in cities

| 11/2020 | **International Workshop on Cross-Reality (XR) Interaction** @ ACM ISS 2020 | Workshop Proceedings |

Outdoors Mobile Augmented Reality for Coastal Erosion Visualization, based on Geographical Data

Google Scholar.

AWARDS

| 6/2023 | **Best Demo Award** | ACM International Conference on Interactive Media Experiences (IMX' 23) |

Received "Best Demo Award" of the conference by Tobbi for the demo: "GoNature AR".

| 2/2022 | **Winner of "Innovation" Category** | Brackeys GameJam 2023.1 |

Category winners for the game: "UnSentenced"

LANGUAGES

• **English** - Fluent, (C1 Level of Certification)   • **Greek** - Native