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## Senior GPU Software Engineer

### SUMMARY

- Experienced GPU software developer with a wide range of 3D and image processing applications for the medical, entertainment, security and civilian industries; - Experienced in 3D graphics, GPGPU and VR for both mobile platforms(iOS, Android, Quest, Magic Leap) and desktops(Windows, Linux, Mac). - Proficient in: Java, Objective-C, Swift, C++, C#, js, Python. - Developed with: OpenGL 2.0, CUDA, DirectX11, Unity, Unreal Engine, opencv, Matlab, WebGL, ThreeJs. - Implemented Structured Light camera, worked on Time of Flight camera and multi rig active stereo solutions(arena). - 15+ years commercial experience

### TECHNICAL SKILLS

<b>Main Technical Skills</b>	Java, Objective-C, Swift, C++
<b>Programming Languages</b>	C#, C++, Java, JavaScript, Objective-C, Python, Swift
<b>AI &amp; Machine Learning</b>	OpenCV
<b>JavaScript Frameworks</b>	three.js
<b>JavaScript Libraries and Tools</b>	three.js, WebGL
<b>Platforms</b>	Android, Unity
<b>iOS Libraries and Tools</b>	ARKit
<b>SDK / API and Integrations</b>	DirectX
<b>Operating Systems</b>	iOS, Linux, macOS, Windows
<b>Third Party Tools / IDEs / SDK / Services</b>	MatLab
<b>Other Technical Skills</b>	CUDA, OpenGL, Unreal Engine

### WORK EXPERIENCE

#### Algorithm developer, Multi station active stereo 3D scanner system

**Duration:** 2017-today

**Summary:** Algorithm developer on the GPU and CPU for tetavi/track160

**Responsibilities:** Development in CUDA a multi station active stereo 3D scanner system(3D arena). Did 3D Volumetric files streaming, compression of textures, mesh compression for mobile and web apps. Developed in Unreal Engine and Unity for supporting apps and as data set for machine learning. Optimized DL Nets with NVIDIA TRT in Python.

**Technologies:** CUDA, Unreal Engine, Unity, Python, NVIDIA TRT



### **Lead Developer, AR prototype**

**Duration:** 2016-2017

**Summary:** Lead Developer in Viseron as an AR and mobile expert

**Responsibilities:** Developed AR prototype using Unity for Android and iPhone. Used the new ARKit for iPhone and Tango for Android.

**Technologies:** Unity, ARKit, Tango

### **Software Engineer, 2D processing framework**

**Duration:** 2012-2016

**Summary:** Software Engineer in Dropico as a GPU and mobile expert

**Responsibilities:** Developed the flag ship product's 2D processing framework from scratch using OpenGL ES for iOS. Digital Ink. Developed Video capabilities for iOS apps. Ported the 2D processing OpenGL ES framework from iOS to Android.

**Technologies:** OpenGL ES, iOS, Android

### **Software Developer and Researcher, 3D Camera (Structured Light)**

**Duration:** 2011-2012

**Summary:** Software developer and researcher at the CS GIP lab, The Technion

**Responsibilities:** Design, development and implementation of a 3D camera (Structured Light) based on client/server for Android, Linux and Windows. Research and development of 3D reconstruction algorithms and their implementation in CUDA. Development of new ideas to increase scanning and reconstruction in a 3D camera.

**Technologies:** Structured Light, CUDA, Android, Linux, Windows

### **Developer, 3D camera (Time of Flight)**

**Duration:** 2010-2011

**Summary:** Developer in a Microsoft team, XBOX Israel

**Responsibilities:** Development of a framework for a 3D camera (Time of Flight) for the Kinect project.

**Technologies:** Time of Flight, Kinect

### **Developer, 3D camera**

**Duration:** 2007-2009

**Summary:** Developer at CS GIP lab, The Technion

**Responsibilities:** Software development of a 3D camera using DirectX9(GPU) and C++. Developing GPGPU algorithms such as Active Stereo and Structured light. Implementation of advanced algorithms on the GPU. Applications for the security, medical and civilian industries. The camera got positive reviews and interest from leading companies in Israel and worldwide.

**Technologies:** DirectX9, GPU, C++, Active Stereo, Structured light

### **Game Developer, Game development**

**Duration:** 2002-today

**Summary:** Developing games (independent)

**Responsibilities:** Developing games from scratch for mobile(iOS, Android) and desktop(Windows, Mac). Developed a "Single source" 3D graphics multi-platform framework that works on Android, iOS, Windows and OSX. Neural Networks Artificial behavior, collision detection and physics algorithms.

**Technologies:** Android, iOS, Windows, OSX, Neural Networks



## **Software Developer and 3D animator, 3D simulator for sea navigation**

**Duration:** 1999-2002

**Summary:** Software developer and 3D animator in the Navy

**Responsibilities:** Development of a 3D simulator for sea navigation in DirectX7 for multiple PCs communicating over the network. Modeling and animating 3D parts.

**Technologies:** DirectX7

## **EDUCATION**

- **Bachelor Degree (B.A.)**

Math and Computer Science, The Technion  
2002-2006

## **COURSES**

- Differential Geometry(2012)
- Introduction to GPGPU, CUDA, Larabee,OpenCL(2009)
- Advanced Image Processing(2008)

## **PUBLISHED PATENT**

- Volumetric video in web browser, 2022

## **PUBLISHED ARTICLE**

- 3D-Color Video Camera, 2008

