

# FEDERICO SALDARINI

Computer Scientist | Software Engineer



Oxfede.io



fede.saldarini@gmail.com



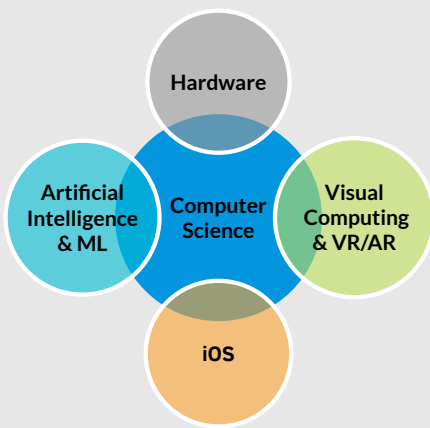
/in/federicosaldarini



saldavonschwartz

## Skills

### Areas



### Languages

Python • C++ • Obj-C • C# • Swift

## Projects

### Jumpy Cube

A physics-based endless scroller game which doubles as a reinforcement learning environment.

### NNKit

A Python framework for implementing dynamic neural networks.

### DQN

An implementation of Deep Q-Network used in solving reinforcement learning environments in OpenAI Gym.

### Digits

A neural network classifier trained in Python and deployed to iOS via Obj-C++ and OpenCV.

### GPUKit

AC++ framework for OpenGL rendering.

### VRTeleport

AC++ plugin for virtual reality teleportation in Unreal Engine.

## ABOUT

I am a computer scientist focused on **visual computing**, **artificial intelligence** and interfacing with the physical world and enjoy projects where these converge.

## EDUCATION

|      |  |  |
|------|--|--|
| 2018 | <b>Audited Courses</b> <ul style="list-style-type: none"><li>• CS188 Artificial Intelligence</li><li>• CS184 Computer Graphics</li></ul> | University of California, Berkeley. Berkeley, CA. <ul style="list-style-type: none"><li>• CS189 Machine Learning</li><li>• CS194 Computational Photography</li></ul> |
| 2011 | <b>B.S. Computer Science</b>   | Portland State University. Portland, OR.   |
| 2009 | <b>Music Synthesis</b>   | Berklee College of Music. Boston, MA.  |

## EXPERIENCE: VR, AR, AI, GRAPHICS AND HARDWARE

|       |   |                       |
|-------|---|-----------------------|
| 01/19 | <b>Contract Software Engineer</b><br>OpenGL, SDL2, C<br>Porting of the video game X-Ball (2001) from SDL1 to SDL2 + OpenGL, for OSX and Windows.  | Crystal Pier Software |
| 03/17 | <b>Contract Software Engineer</b><br>OpenGL, C++<br>R&D of OpenGL ES voxel engine for Raspberry Pi, as an alternative to Minecraft Pi Edition.  | Piper                 |
| 02/17 | <b>Co-Creator / Software Engineer</b><br>Unreal Engine, Unity, HTC Vive<br>Winner of the Immersion Award at the 45th Festival Du Nouveau Cinéma, Canada. R&D of a room-scale VR experience featuring depth-capturing of live actors and environments. | RED Patterns          |
| 11/16 | <b>Contract Software Engineer</b><br>Unity, Oculus Rift, Google Cardboard<br>Character rigging and optimization of assets and precomputed lighting according to capabilities of desktop vs mobile VR hardware.  | Endless Riff          |
| 05/16 | <b>Contract Software Engineer</b><br>Unreal Engine, Unity, Samsung GearVR, Google Cardboard<br>Prototyping of different VR + 360 film viewers and interactive environments for different mobile platforms.  | Boon                  |
| 02/16 | <b>Contract Software Engineer</b><br>iOS, Bluetooth LE<br>Implementing a BLE protocol and music engine for iOS devices to interact with a custom electronic guitar.   | Magic Instruments     |
| 08/15 | <b>Contract Software Engineer</b><br>iOS, C++, Vuforia<br>Auditing and bug-fixing of C++ / Vuforia code in an iOS AR application.   | Wiggle Planet         |
| 02/14 | <b>Full-Time Software Engineer</b><br>iOS, C++, Unity, Bluetooth LE<br>Implementing several features of Anki Drive for iOS.<br>R&D on interfacing Unity with custom C++ AI-planner.   | Anki                  |

## OTHER IOS EXPERIENCE: FULL-TIME & CONTRACT | 2012-2017

Shyp • Shopular • Live Nation • Interview Cake • Basic Space • Learnist • Nextive

## PUBLICATIONS

|       |  |           |
|-------|--|-----------|
| 11/10 | <b>The Audio Programming Book</b><br>Waveshaping: from Csound to Cocoa. DVD: Ch. 34. | MIT Press |
|-------|--|-----------|