



Andrea Cimitan

Software Engineer / Rapid UI Prototyping

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SUMMARY

Creative and motivated engineer with breadth and depth of knowledge that spans from interaction design to low-level graphics, networks, cloud microservices deployments and Linux programming.

As I really appreciate quality, I pursue precision in everything I do.

I'm driven by a passion for improving the interaction and usability of digital interfaces, this has proven essential in building a career that covers over a decade of shaping great user experiences on software now embraced by millions of people. I enjoy the challenge of learning new programming languages and tools to strive for the best possible outcome.

I'm used to work in close collaboration with interaction and visual designers, so that my deep technical knowledge, with the necessary critical thinking, can be of great value throughout the entire design process.

SELECTED WORKS

NodeJS, C#,
Amazon Alexa,
Google Assistant,
DialogFlow,
AWS Cloud,
WebSockets,
Unity 3D, PS VR,
OpenCV

Research & Development for Sony <http://rdwest.playstation.com>

I'm in charge of the research, architecture and implementation of few innovation projects.

Due to their confidentiality, I cannot go much into detail.

I can say that each project requires me to experiment with modern hardware or to research new one, and the technology stack varies differently between them.

Work has been done with VR headsets, Unity 3D game engine, digital assistants like Amazon Alexa and Google Assistant, computer vision libraries like OpenCV, 3D modeling in Blender and 3D printing.

Among them, I developed and deployed multiple microservices to AWS cloud for a production application, engineering both RESTful APIs as well a secure encrypted WebSockets communication protocol, handling thousands of concurrent clients through a load balancer over SSL, connecting the scalable instances.

Some research was also conducted on optics and multiview imaging.

As part of any research project, documentation is prepared to record the outcome.

Javascript, C++,
Python, QML, Qt,
unit testing,
profiling

Unity for Ubuntu Touch https://en.wikipedia.org/wiki/Ubuntu_Touch

I worked amongst a team of senior engineers who implemented the interface of Ubuntu for Phones and Tablets. I was leading the development of the Dash, the home screen that shows content from both local and web sources, and was responsible of its convergence to the Desktop. We shipped four phones and one tablet. I also conducted GPU profiling and rendering pipeline study with Imagination Technologies.

In 2014, I was in Barcelona at the MWC to showcase the project to the technology press.

C, CSS3, GTK+,
vector graphics, UI

Ubuntu Desktop Theme <https://www.ubuntu.com/desktop>

I am the author of the default look of the Ubuntu Desktop. In collaboration with visual designers, I created a set of C libraries that use vector graphics to render GTK+, and fine tuned the look over the years.

C, GTK+, GDK,
XWindows,
X11, UX

Ayatana Overlay Scrollbars <http://www.markshuttleworth.com/archives/615>

I was the first to innovate the scrollbars of modern toolkits, rethinking their usage for mouse and touch devices across mobile and desktop. It was a solo-engineering effort in close collaboration with interaction designers, a full-stack implementation from X11 Atoms till the graphical toolkit.

C, GTK+,
vector graphics, UI

Murrine GTK+ Engine <https://github.com/GNOME/murrine>

I created a rendering engine for GTK+ 2.x that became extremely popular with millions of users on both free and commercial products. It was very versatile and innovative, offered great looks yet being very fast.

EXPERIENCE

May '17 - now
1 yrs 4 mos
London, UK

Sony Interactive Entertainment / Senior Engineer

I work for the R&D department focusing on innovation.

I'm in charge of the research, architecture and implementation of several, confidential, greenfield projects, for Sony PlayStation and its related ecosystem.

Due to their scope, a creative approach to problem solving is greatly beneficial to support their iterative pace and promote innovate new ideas and concepts. All of them require to research and/or produce new hardware, engineer their software, document the outcome and finally present the finished product to the stakeholders. The variety of the projects stretches from VR, digital assistants technologies, 3D modeling and 3D printing, optics and computer vision to scalable microservices deployments in the cloud.

May '17 - now
1 yrs 4 mos
London, UK

Cimi Ltd / Director

I run a private limited company in the UK to offer consultancy engineering work.

May '10 - '17
7 yrs
London, UK

Ubuntu (Canonical) / Software Engineer

I had the opportunity to collaborate in many different projects, mostly front-end, touching a multitude of programming languages and frameworks, in particular C, C++, Javascript, Python, Qt, QML, GTK+, GDK, X11, CSS, with Agile methodology, CI and unit testing coverage. I also designed, prototyped and developed libraries on my own.

Collaborative efforts:

- Unity8 - Ubuntu Shell that shipped on Phones and Tablets. I was leading the Dash development.
- Ubuntu Settings Component - GUI Components for Unity8 and System Settings.

Solo efforts:

- Ubuntu Theme - Since 2010 my GNOME theme is the default look of Ubuntu on Desktops.
- Ayatana Overlay Scrollbars - Complete reinvention of scrollbars for mouse and touch devices, full-stack implementation from X11 Atoms and XWindows till the graphical toolkit.
- Unico GTK+ Engine - Default Ubuntu GTK+ 3.x rendering engine since 2011.
- Murrine GTK+ Engine - Default Ubuntu GTK+ 2.x rendering engine since 2009.
- DELL Developers Profile Tool - Custom GUI Application pre-installed on DELL Laptops.

Jul '06 - Oct '12
6 yrs 2 mos

GNOME / Software Engineer

Various contributions to the GNOME project, to both the suite of apps and the system libraries. During this period I was a co-maintainer of gtk-engines and gnome-themes.

Nov '09 - Jul '10
9 mos
Paris, France

Jolicloud / Contractor Engineer

I worked to theme Joli OS, the first Cloud OS designed for netbooks and recycled computers in mind. My task involved developing my own Murrine GTK+ Engine and a custom GNOME theme.

2007 - '08
1 yr

ArchLinux / Administrator and Web Developer

I developed the ArchLinux Italia website, with custom PHP scripts, RSS Reader and MySQL bits.

2007 - '09
2 yrs

Freelance / Web Designer and Developer

Dynamic web applications using PHP/MySQL and custom web templates optimized to use CSS3.

EDUCATION

Sep '05 - Jun '10
4 yrs

Information Engineering / University of Padova

Academic studies covering a complete and widespread range of engineering subjects including maths, physics, communications, computer science, electronics, data structures and algorithms, computer architecture, signals, systems.

Sep '00 - Jun '05
5 yrs

Scientific lyceum (PNI curriculum) / Liceo Scientifico Alvisi Cornaro, Padua

Secondary school covering a range of disciplines, including humanistic ones, but with an additional volunteering specialization in both math and physics.

SKILLS

General

Long team work experience in distributed engineering teams, using Agile methodologies and Scrum.
Great understanding of interaction design principles, user research and design process.

Development

Programming languages:

- Best: C, JavaScript, QML, Bourne shell, CSS3, (X)HTML 5
 - C#, Java, Python, Go, C++, Vala, PHP, SQL, GLSL, ARM and x86 Assembly, Pascal, MATLAB, LaTeX, TeX
- Frameworks / Toolkits: GTK+, Qt, GObject, Android SDK, NodeJS, React, Nux OpenGL Toolkit

Debugging tools: GDB, Valgrind, QML Profiler, PowerVR Tools

Low-level graphics libraries: Cairo, GDK, Xlib

Computer Vision: OpenCV

Cloud computing: Amazon AWS, Google Cloud

Digital assistants: Amazon Alexa, Google Assistant, DialogFlow

Version control: Git, Bazaar, Subversion, CVS, Mercurial

Continuous Integration: Jenkins

Agile software development: Scrum, Kanban

Unit testing / Test automation: Qt Test, Autopilot Python testing framework

Software

Operating Systems: GNU/Linux, Google Android, Apple Mac OS X, Microsoft Windows

Graphics: Adobe Creative Suite, Inkscape, GIMP, Sketch, Blender

IDE: Qt Creator, Visual Studio, Eclipse, Anjuta, Xcode

Productivity: MATLAB, Spice Electronic Simulations

Game engine: Unity

Project management: Jira, Trello, LeanKit

Languages

Native: Italian

Professional proficiency: English