Michele Bianchi

C++ Software Engineer with 7 years of SDK, reinforcement learning, and simulation development in an R&D environment. 2 years of academic research experience

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EXPERIENCE

Embark Studios — *Game Programmer*

STOCKHOLM (SWEDEN) — FEBRUARY 2021 - PRESENT

- Extended Unreal Engine (UE4) FBX import pipeline to support skeletal collision information import and handle joint constraint settings merge, accelerating the iteration speed of two AAA game projects
- Fixed multiple parts of a physically-based animated (PBA) agent, trained via reinforcement learning: perception data, spatial data and joint handling
- Engineered a large physical simulation change in the PBA agent, requiring low-level physics engine interfacing, updating joint drive control systems and retraining

Ascent Robotics — *Senior Software Engineer*

TOKYO (JAPAN) — NOVEMBER 2017 - FEBRUARY 2021

- Cooperated to develop a 3D simulator inUE4 for autonomous driving R&D in a two people team, allowing the company research team to train and validate autonomous driving models on a distributed environment.
- Integrated RPC and MSGpack in a UE4 plugin for external control, effectively providing a remote interface for all in-house simulators
- Established the multi-platform deployment pipeline of the simulator
- Pioneered a scenery generation project for adversary training in UE4, Houdini, and Rust leading a 4 person team, removing the need of manual map creation, reducing the time to create a new map from a week to a couple of hours
- Handled fixing, automatization, containerization, and CI for a semantic map importing pipeline for CARLA simulator, removing all manual steps for internal distribution of ML training and validation maps
- Automated 3D assets import and distribution pipeline for an in-house machine learning training simulation for robotics in UE4, reducing the time needed from more than 4 hours to less than 15 minutes

FLIR Integrated Imaging Solutions — *Software Developer, C++*

TRENTO (ITALY) — JULY 2015 - OCTOBER 2017

- Expanded FLIR's Triclops SDK for stereo camera interfacing and depth computation with a new Qt5.7 application and multiple performance features, such as reimplementing core routines in Intel SIMD, improving company's stereo process speed by 22% and valid disparity pixel by 28%
- Overhauled build system, cutting the build time by almost a half, and standardized packaging to the official Debian guidelines
- Tested multiple stereo-based depth reconstruction algorithms on PC and assisted in their deployment on an FPGA SoC for a smart camera product

University of Trento — *PhD Student*

TRENTO (ITALY) — NOVEMBER 2012 - JUNE 2015

- Computer Architecture teaching assistant, for 150 students/year
- Visiting Junior Researcher at Tokyo Institute of Technology

EDUCATION

University of Trento — *M.Sc. Computer Science*

TRENTO (ITALY) — SEPTEMBER 2010 - SEPTEMBER 2012

- 4 months at Technical University of Denmark (DTU)

SKILLS

C++

Rust

Python 3

GNU/Linux

Multiplatform development

Git

Build systems

Unreal Engine 4

Shell scripting

Software development life cycle

ML engineering

AWARDS AND PUBLICATIONS

Jury Prize at CHIPlay 2014 Student Game Competition
"OHR and Radiant Square"

Serious Games for Large-Scale Image Sensing
International Conference on Serious Games (2016)

OHR
Proceedings of the first ACM SIGCHI annual symposium on computer-human Interaction in Play (2014)

Tangible and Graphical Game Interfaces: An Experimental Comparison
Games User Research: A Case Study Approach(2017)

INTERESTS

Videogames, Anime, Japanese, Mechanical Keyboards, Travelling