Alberto Spina

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EDUCATION

Imperial College London *October 2015 - June 2019*
Master of Engineering in Computing. First Class Honours (81%).

EXPERIENCE

Two Sigma Insurance Quantified (TSIQ) *August 2019 - Current*
Software Engineer - TSIQ London

- Closely worked with data scientists, developing ways to orchestrate the deployment and execution of models, integrating them, and allowing communication with other microservices in our VPC.
- Design and management of underwriting workflows for insurance policies and products.

G-Research *April 2018 - September 2018*
Software Engineering Intern - Technology Innovation Group

- Designed and developed configurable and efficient IP-free data generators in Java.
- Deployed self-service applications to wrap Ansible, VSphere and Active Directory operations.
- Benchmarked library and code performance on IBM Power9 CPUs and Nvidia V100 GPUs.

PROJECTS

XPC - embedded networking *October 2018 - June 2019*
XPC is my dissertation on reliable distributed consensus for low-power multi-hop networks. It proposes a new dissemination strategy (Hybrid) and two new flavours of Paxos protocols: WISP and WIMP. Built on the open-source OS, ContikiNG, it is configured for MSP430 architecture and CC2420 radios.

DynamicFusion - computer vision *October 2017 - January 2018*
DynamicFusion is a dense Simultaneous Localization and Mapping (SLAM) system capable of reconstructing non-rigid deforming scenes. It is written in C++ and built on top of KinectFusion. Given an RGBD stream we perform model reconstruction using PCL and OpenCV (image processing), Opt and Ceres (non linear solvers) and CUDA (GPU acceleration).

BaoBOS - robotic arm *August 2017 - September 2017*
BaoBOS is a hydraulic powered robotic arm built out of wood and syringes. Robot backend is written in C, interactions with objects are rendered in a digital environment using C++ with OpenGL.

AWARDS, ACHIEVEMENTS AND PUBLICATIONS

EWSN 2020 Publication *February 2020*
XPC: Fast and Reliable Synchronous Transmission Protocols for 2-Phase Commit and 3-Phase Commit.

ARM Project Prize, XPC *July 2019*
Awarded annually for an outstanding individual project in the area of computer systems.

Dean's List, Imperial College *July 2018*
Awarded for achieving 82.5% in Third Year, scoring in the top 10% of the Year Group.

Palantir Forward Group Project Prize, DynamicFusion *January 2018*
Awarded for an outstanding Third Year Group Project for Software Engineering excellence.

SKILLS AND LANGUAGES

Proficient with C, Java. Familiar with C++, Typescript, Python, Javascript, UNIX, SQL and scripting.