

Jean-Philippe Jodoin

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Experience

- 2017 - Now** **C++ Team Lead/Erlang Developer – Summit Tech**
Management of the day-to-day operation of the C++ Team (8 members);
Development of various back-end telecom components such as Push Notification Server, Chatbots, Lawful Intercept, Media proxy, etc. using the Erlang programming language;
Containerization of various services with Docker;
Deployment and on-site support for the launch of our first complete telecom network;
Support and administration of the various external telecom production systems (North America, Middle East, Asia) and the various internal development system of the company (Jenkins, Gerrit, etc.).
- 2015 to 2017** **C++ Developer – Summit Tech**
Development of features in our core C++ library used by our SIP/RCS communication application (Audio, Video, Messaging);
Usage of various protocols linked to VoIP/telecom (SIP, RTP, MSRP, etc.), working with codecs and creation of mobile API (Android JNI/iOS Objective C++);
Analysis and debugging of problems using Wireshark pcap and logging from our production systems. On-site technical support for North American customers and fixing issues with members from our other internal teams (Android/iOS/IoT, etc.);
Migration of our SCM from SVN to GIT, implementation of a new development methodology based on a GIT flow branching model, continuous integration (Jenkins CI), code review (Gerrit) and automated testing. Support other teams' migration to this more modern approach company-wide. Use of CMake for all our platform builds.
- 2014 to 2015** **Software developer/Researcher (C++, Java, Objective-C) – Sensopia**
Design and development of a cross-platform framework (Android/iOS/Windows) to create a mobile application that takes advantage of the various sensors of the device such as the IMU and the camera;
Development of software (Magic Measure/Magic Plan) allowing end users to take measurement from pictures using a kinetic model and some calibration;
Integration of depth sensors (Google Tango and Intel RealSense) to the measurement app.
- 2013 to 2014** **Cofounder (C++, Python) – Espace Libre**
Development of a parking detection system for on-street and private parking lot that runs on a Raspberry Pi. Detection of occupied parking space using a computer vision algorithm based on HoG/SVM;
Integration of a wireless communication system for the sensors using a Zigbee mesh network.
- Summer 2011
Autumn 2010** **C++ software engineering intern (C++/Lua) – Autodesk**
Creation of a new architecture for plug-ins that can be integrated in multiple DCC software (3ds Max, Maya, Motion Builder) with minimal code rewrite. Integration of the Lua scripting system in plugins to allows characters to interact in a factory simulation.
- Autumn 2009** **C++ software engineering intern – NexGen Ergonomics**
Integration of a physics engine inside a CAD (HumanCAD) to simulate the various joints of the human body and kinetics operation. Tasks included evaluation of various physics engines and the full integration with existing software.

Winter 2009
Summer 2008

C++ software engineering intern – **Genetec**

Integration of new IP cameras to the software and support of various features specific to each camera model. As the cameras were running unstable firmware, analysis of issues was reported to the manufacturers.

Personal projects

2012 to 2017

GuitarLab Tuner (C++, Java, Objective C) – www.guitarlabtuner.com

Translation of a complex audio processing system to tune guitar from a LabView prototype to C++;

Development of both an Android (Java) and an iOS (Objective C) mobile app using the C++ guitar tuning algorithm and publication of the application on the various app store.

2009 to 2020

Transport Montréal (C++, Python, Java)

Development of the first Android application for public transit in Montréal. The back-end (C++) is able to extract transport schedule from all the major public transport operator in the Greater-Montreal area. The schedules are converted to a minimal format and distributed to end users using a Python deployment script and a PHP back-end server. The application was downloaded more than 100 000 times and has been kept in operation for more than 10 years while maintaining an average note over 4 stars.

Education

2012-2013

M. Sc. Computer Vision – **Polytechnique Montréal**

GPA 3.7/4.0

Under the supervision of professors Guillaume-Alexandre Bilodeau and Nicolas Saunier

My research project focused on the challenge of detecting and tracking multiple objects of various types in outdoor urban traffic scenes using a static video camera. The resulting system aimed at collecting object trajectories for road safety analysis. A related paper was presented at IEEE WACV'14. www.jjodoin.com/urbantracker/

2007-2011

Bachelor in Computer Engineering – **Université de Sherbrooke**

GPA 4.1/4.3

Publications

2016

[Tracking All Road Users at Multimodal Urban Traffic Intersections](#)

IEEE Transactions on Intelligent Transportation Systems · Jean-Philippe Jodoin, Guillaume-Alexandre Bilodeau and Nicolas Saunier

2014

[Urban Tracker: Multiple Object Tracking in Urban Mixed Traffic](#)

IEEE Winter conference on Applications of Computer Vision (WACV14) · Jean-Philippe Jodoin, Guillaume-Alexandre Bilodeau and Nicolas Saunier · www.jjodoin.com/urbantracker/

2013

[Change detection in feature space using binary local self-similarities](#)

Canadian Conference on Computer and Robot Vision · Guillaume-Alexandre Bilodeau, Jean-Philippe Jodoin and Nicolas Saunier

Language

French (native). English (professional working proficiency).

Specific knowledge

Visual Studio Professional/Code, Wireshark, Fusion 360/3D printing

Interests

Hiking, running, traveling, home automation, 3d printing, computer security, reverse-engineering protocols, electronics, reading, history and video games (retro games and modern games)