Olivier CRAVE

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SKILLS

Theoretical
Computer graphics, embedded systems, robotics, simulations, automatic speech recognition, text-to-speech technologies, signal processing, video coding

Technical
C, C++, Python, JavaScript, SQL

Preferred tools
vim, Git, gcc, clang, LaTeX

Languages
French - native
English - proficient
Mandarin - basic
Spanish - basic

EDUCATION

Télécom ParisTech (ENST), France
2005 - 2008
Ph.D. in Information Technology, Signal Processing

École Normale Supérieure de Cachan (ENS Cachan), France
2004 - 2005
M.Sc. in « Mathematics, Vision and Learning » (MVA), with honors

Université de Technologie de Compiègne (UTC), France
2000 - 2004
M.Sc. in Computer Engineering

Siemens Corporate Research, USA
2003 - 2004 (1 year)
Engineer intern, Medical imaging

National University of Singapore (NUS), Singapore
2002 - 2003 (1 year)
Exchange student, School of Computing

PERSONAL INTERESTS

Cultural tourism, video games, reading, Web edition, running.

WORK EXPERIENCE

Parrot
Paris, France

Drone Software Engineer
Since March 2015
Design and implementation of a drone simulator that directly communicates with the firmware to reproduce the software behavior with simulated captors and actuators. Its components are mostly written in C++ with some parts in C, Python and Bash.
Developed an Unreal Engine plugin to have more visually realistic simulations. Implemented hardware-in-the-loop functionalities to test software running on actual drone hardware.
Made several contributions to the open-source robot simulator Gazebo and its dependencies (support for battery, atmosphere, wind, ...). Developed a dashboard in JavaScript (React) to visualize flight data in real-time.

Multimedia Software Engineer
2011 - 2015
Worked on a solution for automatic speech recognition (ASR) and text-to-speech (TTS) in embedded systems. Development of the legacy C library used in several OEM and aftermarket products. Conception and implementation of the new version of the library written in C++ as a service in a custom Android 4.2 environment.
Developed tools in Python to generate the necessary binary files for various products. Created several Web applications to manage benchmarks and native speaker evaluations.

Commissariat à l'Energie Atomique (CEA)
Saclay, France

Research Engineer
2009 - 2011
Developed a library aimed at real time computer vision on massively parallel multi-core processors in embedded systems and graphics hardware.
Programs were written using an experimental framework which includes a language (based on C89) that implements dataflow principles to describe an application as a finite state machine.
Applications include multi-view pose estimation of a 3D model and human posture tracking and recognition, and real-time dense reconstruction..

Télécom ParisTech & INRIA
Rennes, France

Ph.D. Candidate
2005 - 2008
Performed research in robust video compression of multi-terminal sources. Built several video codecs in C++ by combining distributed video coding (DVC) principles to shift the computational complexity from the encoder to the decoder and multiple description coding (MDC) principles to provide error resilience.