Corentin LE MOLGAT

Education

ENSEIRB — Bordeaux, France
09/2006–10/2009
B.S./M.S. in Computer Science with a speciality in HPC (High Performance Computing).

Work Experience

Aldebaran Robotics/SoftBank Robotics Europe — Paris, France
04/2012–now
R&D Computer Vision & Embedded System Software Engineer

System Team:

- Maintenance/Development Kernel Linux SoC Driver (C, MT9M114, OV5640).
- Management of camera firmware flasher in the robot distro (Gentoo & Yocto, C++).
- Management of a subcontractor for the development of an UVC compliant firmware (CMake/qiBuild, Docker, C++, Catch, Plantuml).

Vision Team:

- Maintenance/Rework of C++ Framework to manage Robot Cameras in NAOqi for multiple clients at the same time (qiBuild, C++, libqi).
- Development of Camera Viewer Tooling (C++, Qt).
- Design/Development/Maintenance of Modularity (a C++ Computation Graph Framework for Perception).
- Development/Maintenance of the internal CI Builfarm and Training (Jenkins, gcovr).
- Training & Support CMake as senior developper.
- Training & Support C++ as senior developper.

Misc:

- Vision System Support for Innovation Team and Research Partners.
- Support on Production Line, Yantai (China), 1 month.

Vi Technology — St-Egrève, France
02/2010–12/2011
R&D GPGPU Computer Software Engineer

Responsible for the design of the whole Acquisition and Processing Pipeline of a new Automated Optical Inspection Systems for SPI(Solder Past Inspection) running on Linux (Fedora).

- Port of 3D Reconstruction algorithm (Matlab) from Algorithm Team to Dual-GPU System (CMake, C++, CUDA 4, GTX 480)
- Developement of a "CMake cross toolchain" for CUDA files. Speed up from 15s to 7ms (x2000!) between Matlab and CUDA...
- Management of two co-worker to speed up development (Roadmap, Code Review, Scrum Master)
- Development of a Linux Kernel Device Driver (for PCIe Vertex-6 Card)
  - Management of the FPGA integrator

  - Development of Debugger tools (C++, Qt), Protocol Definition and Kernel Device Driver (C)
- Development of a C++ Middleware to grab and manage images from several dozen of image sensors.
- Development of a 3D PCB Viewer (after 3D reconstruction) using (C++, Qt, OpenSceneGraph).
- Development of a 2D Camera Image Viewer (C++, Qt, OpenSceneGraph).

Misc:

- CMake Training & Support
- Jenkins Training & Support (POC, Setup, Design)
- Linux Training & Support (Bash, Fedora) (everyone were Windows developers...)

KYUSHU UNIVERSITY — Kyushu University, Fukuoka, JAPAN
04/2009–10/2009
Engineering Intern at I.R.V.S. (Laboratory For Intelligent Robots & Vision System)

- Design (UML), Implementation (C++) and tooling viewer (C++, Qt) of a 3D Human Pose Estimation using non-parametric Belief Propagation algorithm and multiple 2D video cameras.

KYUSHU UNIVERSITY — Kyushu University, Fukuoka, JAPAN
06/2008–09/2008
Engineering Intern at I.R.V.S. (Laboratory For Intelligent Robots & Vision System)

- 3D Reconstruction on GPU (GLSL) and tooling viewer (C++, Qt) using stereovision algorithm and four 2D video cameras.

Skills

Competence: Image Pipeline, Robotics, Programming, Architecture, Management
Programming Languages: C, C++
Programming Libraries: STL, OpenCV, Boost, OpenMP, MPI
Extra Interests: Android, CUDA, GLSL
Languages: French (native), English (fluent), Japanese (beginner), Spanish (beginner)

References

Prof. RABAUD Vincent
Google, Inc.
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