

Pierre Zins

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EDUCATION

POLYTECHNIQUE MONTREAL

MASTER OF APPLIED SCIENCE, COMPUTER

SCIENCE - GPA 4.0/4.0

January 2017 - August 2018 | Montreal, CA

UNIVERSITÉ DE TECHNOLOGIE DE COMPIÈGNE

FRENCH ENGINEER'S DEGREE IN COMPUTER
SCIENCE

September 2012 - August 2018 |

Compiègne, FR

Speciality Real-Time and embedded Systems

TU GRAZ

BACHELOR COURSES IN COMPUTER SCIENCE

January 2014 - July 2014 | Graz, AUT

Abroad semester

COURSEWORK

AI, Machine Learning and Deep Learning

Video and Image Processing

Real-Time and Embedded Systems

Algorithms for Distributed Systems

Software Design and Architecture

SKILLS

PROGRAMMING

Languages:

C++ • C • Python • Java • C#

Libraries:

Pytorch • TensorFlow • OpenCV • Numpy •

OpenCL • CUDA SYCL • HSA • HIP • Qt

Others:

Unreal Engine • Unity • Android • Databases /

SQL • Git • Docker • UML • ARM • X86

Assembly

OS:

Linux • Windows • MacOS • Real-time Linux

(Xenomai)

LANGUAGE:

• French : Native speaker

• English : Proficient User, Advanced

• German : Proficient User, Advanced

OTHER INTERESTS:

Sports : Running, swimming, badminton

(competition), table tennis (competition)

EXPERIENCE

INRIA - MORPHEO | PHD STUDENT

October 2019 – Now | Grenoble, FR

- Thesis in collaboration with Facebook Reality Labs.
- My research focuses on 3D/4D modeling of dressed humans from images/videos.

WRNCH | SOFTWARE ENGINEER

September 2018 – May 2019 | Montréal, CA

- Working on computer vision applications using human pose estimation
- Multi-cameras platform for 3D markerless motion capture:
 - Cameras calibration
 - Video feed synchronization
 - 3D estimation from several 2D poses (from different angles)

DISTRIBUTED OPEN RELIABLE SYSTEMS ANALYSIS LAB (DORSAL) | RESEARCH MASTER PROJECT

January 2017 – August 2018 | Montreal, CA

Performance analysis tools for machine learning dataflow applications executing in heterogeneous environments.

- Focus on the deep-learning library "TensorFlow" and its dataflow computation graph.
- The goal is to develop tools which will help to understand the performance of the applications and to detect limiting elements or bottlenecks. A main aspect is to insure that the available hardware (CPUs and GPUs) is used efficiently.

ASPIC TECHNOLOGIES | SOFTWARE ENGINEER INTERN

September 2015 – February 2016 | Tourcoing, FR

- Continuous Integration System : Buildbot, Docker, Wakeonlan, scripts Bash.
- C++ Développement for a license system : C++, CMake, Boost, XML, Client-Server.
- Work on smart C++ tools for memory allocations tagging and monitoring.

PROJECTS

DEEP LEARNING | AGE AND GENDER PREDICTION

- Convolutional neural network for gender and age prediction using the IMDB Wiki face database.
- Trained models and developed a C++ application to predict age and gender through the webcam.

VIDEO AND IMAGE PROCESSING | SEVERAL PROJECTS

- ViBe algorithm implementation for GPU (OpenCL, SYCL).
- Segmentation using background subtraction.
- Superpixel segmentation.

PUBLICATIONS

[1] ArXiv: Pierre Zins, Yuanlu Xu, Edmond Boyer, Stefanie Wuhler, and Tony Tung. Learning implicit 3d representations of dressed humans from sparse views. Preprint at <https://arxiv.org/abs/2104.08013>, 2021.

[2] Pierre Zins and Michel Dagenais. Tracing and profiling machine learning dataflow applications on GPU. *Int. J. Parallel Program.*, 47(5-6):973–1013, 2019.