Pierre Zins

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Github : https://www.github.com/pzins/

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 | Compiegne, 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 : Learning to infer Human Motion
- First work : Learning Implicit 3D Representations of Dressed Humans from Sparse Views

WRNCH | SOFTWARE ENGINEER
September 2018 – May 2019 | Montréal, CA
- Working on computer vision applications using human pose estimation
- Multi-cameras 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++ Dévelopment 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
- Convolutionnal neural network for gender and age prediction using the IMDB Wiki face database.
- Trained models and developped 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 Wuhrer, 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.