Fayez Lahoud Route de Chavanne 66, 1007 Lausanne

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EDUCATION

École Polytechnique Fédérale de Lausanne 2015 - 2017
M.S., Computer Science

American University of Beirut 2009 - 2013
B.E., Computer and Communication Engineering
Minor in Mathematics

PROFESSIONAL EXPERIENCE

Pix4D SA - Senior R&D Engineer 2019 - Present

- R&D of 2D/3D computer vision and deep learning algorithms
- Management of multiple research projects with a team of 7 people
- Maintenance of infrastructure and product analytics tools

Technologies: C/C++, Conan, CMake, Pybind, Python, PyTorch, Concourse

Sony Europe - Research Intern 2017

- Audio speech recognition using convolutional networks
- Visualizations for Sony's DNN Library
- Distributed resource management using Grid Engine

Technologies: C/C++, Cython, Python, NNabla, Kaldi, Open Grid Engine

Vidinoti SA - Software Developer 2016

- Image recognition and tracking using AGAST detectors and BRIEF descriptors
- NPM module development for automating descriptors calculation
- Mobile JavaScript library development for Augmented Reality applications

Technologies: JavaScript, RequireJS, NPM, Gulp, Python, Image processing

Murex Systems - Software Developer 2012 - 2015

- Java Swing manipulation API for test developers
- Web templates for test reports and automated tools
- Java-JavaScript bindings API in JavaFx Webview

Technologies: JavaFx, Groovy, Maven, JavaScript, AngularJS, Ruby, Rails

RESEARCH EXPERIENCE

École Polytechnique Fédérale de Lausanne - Doctoral Assistant 2018 - 2019

- Multi-Spectral image enhancement and super resolution
- Binary neural network optimization
- Zero-Learning multi-modal image fusion

Technologies: Python, PyTorch, MATLAB, C/C++, Image processing, Neural networks

École Polytechnique Fédérale de Lausanne - Semester Projects 2016 - 2018

- Keyword-based automatic local and global image enhancement

- Virtual and augmented reality for firefighter applications
- Object detection and classification for digitizing archived paintings

Technologies: Python, Anaconda, OpenCV, Tesseract, Unity3D, Image processing

American University of Beirut - Final Year Project 2012 - 2013

- Genetic algorithm for daily rides scheduling
- Android application for requesting rides and viewing routes

Technologies: Java, Android, Google Maps API, Genetic Algorithms

PUBLICATIONS

F. Lahoud, S. Süsstrunk, "Zero-Learning Fast Medical Image Fusion," in IEEE International Conference on Information Fusion (FUSION), 2019.

F. Lahoud, R. Zhou, M. El Helou, and S. Süsstrunk, "Super resolution: wavelets and residual learning," in IS&T EI Proceedings (EI), 2019.

F. Lahoud, S. Süsstrunk, "AR in VR: Simulating augmented reality glasses for image fusion,", in IS&T EI Proceedings (EI), 2019.

F. Lahoud, R. Zhou, and S. Süsstrunk, "Multi-Modal Spectral Image Super-Resolution," in Proceedings of the European Conference on Computer Vision (ECCV) Workshops, 2018.

F. Lahoud, and S. Süsstrunk, AR in VR: simulating infrared augmented vision, in IEEE International Conference on Image Processing (ICIP), 2018.

F. Lahoud, M. S. Ortiz Segovia, B. Jin, and S. Süsstrunk, Keyword-Based image color re-rendering with semantic segmentation, in IEEE International Conference on Image Processing (ICIP), 2017.

C. M. Boukhater, O. Dakroub, F. Lahoud, M. Awad, and H. Artail, An intelligent and fair GA carpooling scheduler as a social solution for greener transportation, in 17th IEEE Mediterranean Electrotechnical Conference (MELECON), 2014.

O. Dakroub, C. M. Boukhater, F. Lahoud, M. Awad, and H. Artail, An intelligent carpooling app for a green social solution to traffic and parking congestions, in 16th IEEE International Conference on Intelligent Transportation Systems (ITSC), 2013.

AWARDS

Winner, PIRM 2018 Challenge on Example-Based Spectral Image Super-Resolution (Both tracks), ECCV 2018 Workshops.

Honorable Mention Award, NTIRE 2018 Challenge on Spectral Reconstruction from RGB Images, CVPR 2018 Workshops.

Best Poster Award, FEA student and alumni conference, American University of Beirut.

7 x Dean's Honor List, American University of Beirut.

LANGUAGES

English - French: Fluent
Arabic: Mother-tongue
Spanish: Self-taught (C1 Level)
Mandarin Chinese: Self-taught (HSK3 Level)