Curriculum Vitae

Dr. Peter Fasogbon

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Research Interests (3D Computer vision): Calibration, Visual-SLAM, virtual and augmented reality, real-time system, Deep-Learning.

Work Experience

April 2007 – Present

Senor Scientist Computer Vision

Nokia Technologies

Real-time 3D capture and animation, Multi-view calibration, and Technical consultant in Standards (XR5G, MPEG, 3GPP).

April 2013 – April 2016

R & D Engineer

French Railway Company (SNCF)

Creation of 3D vision systems to monitor high speed railway catenary system, and contact wires. System testing, Integration and Placement.

November 2012 – March 2013

Engineer

Université de Lille, CRISTAL (CNRS)

Development of 3D vision simulation tool for railway application, such as system (Cameras, Lasers) placement, distortion, perturbations under highspeed railway environment.

January 2012 – June 2012

Master Research Intern

Université d'Auvergne, ALCOV ISIT (CNRS)

Real-time Tool/Tissue Segmentation for Minimal Invasive Surgery, Monocular 3D reconstruction, and CUDA implementation.

May 2011 – September 2011

Summer Research Intern

Université de Bourgogne, Le2i (CNRS), France

Industrial tube crack detection using statistical and probabilistic image analysis method, implemented various statistical correlated filter using exponential noise distribution families. Project financed by a multi-national manufacturing company in Paris.

Education

Sept. 2013 – Oct. 2016

Doctor of Philosophy (Industrial)

Université de Lille, France

Collaboration between French Railway (SNCF) and Université de Lille, CRISTAL (CNRS).
Supervisor: L. Macaire, L. Duvieubourg & P.A. Lacaze.
Dissertation: Dimensional Measurement of Metallic Object by 3D Vision

2011 – 2012

Master 2 - VIBOT (Vision and Robotics)

Université de Bourgogne, France

International master of excellence: Erasmus Mundus

2010 – 2011

Master 1 - Computer Vision (MSCV)

Université de Bourgogne, France.

2009 – 2010

Professional Bachelor's Degree

Université Joseph Fourier, IUT1, France.

Computer Networks and Telecommunication
Final Project: Computer Network Security (Firewall)
Training: Website Database Management (MySQL)

2007 – 2009

Two years of B.Eng Electronics Engineering

Obafemi Awolowo University, Nigeria

Memoir: Zigbee wireless network (Submitted to Joseph Fourier University)

OTHER WORK EXPERIENCE

2013 **Part-time Transcriber at Systrad**
Tasks for French National Police in Lille, France (English-French)

Project Experience

Nokia Internal (Confidential) (2020 – Present)
Goal : Future of XR communication
Funded :
Role :
Skills:
Impact:

Camescat (2013 – 2016)
Goal : Creation of vision technologies for railway inspection and maintenance
Funded : Various interministry region fund and part EU funding, 5 year of 1M euros/year
Role : Main scientific contributor and link between several industries involved
Skills : localization and calibration modules, Real-time processing, 3D reconstruction, Image processing, Robotics
Impact : Large media coverage, Effective system for commercialization Partners: SNCF & CSEM & MERMEC etc.

Awards

2012 **Merit based grant for PhD thesis,** *Interministry fund of Nord-Pas-de-Calais region in France*

2010 **Merit based grant:** *CISCO more together competition on IPV6, 3rd place in France*

Language

English	Official Language
French	Full Professional Proficiency

Hobbies

Traveling, Football goalkeeping, Dancing, and Playwright

Background

Programming	C/C++, CUDA, Python, CUDA, Matlab, Java
Library	OpenCV, ROS, Ceres, G2o, OpenCL, OpenNL, OpenGL, Blender
Deeplearning	Pytorch, Tensorflow
3D	SLAM, SfM, multi-view geometry, structured-light
Others	Visual tracking, real-time processing

Publications

[1] **P. Fasogbon**, H. Zhang, F. CriCri, H. Tavakoli, E. Aksu "TMD: Transformed Mesh Decoder for Mesh Animation," ICPR, 2022

[2] Y. You, **P. Fasogbon**, E. Aksu "NBMP Standard Use Case: 3D Human Reconstruction Workflow," CVIP, 2021

[3] **P. Fasogbon**, Yu You, Emre Aksu "3D human model creation on a serverless environment,"IEEE ISMAR, 2020

[4] **P. Fasogbon**, Emre Aksu "Calibration of fisheye camera using entrance pupil,"IEEE ICIP, 2019, pp. 469-473

[5] **P. Fasogbon**, Emre Aksu, and Lasse Heikkila, "Frame selection to accelerate Depth from Small Motion on smartphones," IEEE IECON, 2019

[6] **P. Fasogbon**, Emre Aksu, and Lasse Heikkila, "Demo: Accelerating depth-map on mobile device using CPU-GPU co-processing" CAIP, 2019, pp. 75-86

[7] **P. Fasogbon** "Depth from Small Motion using Rank-1 Initialization," 14th International Conference on Computer Vision Theory and Applications (VISAPP), 2019

[8] **P. Fasogbon**, L. Fan, "Generic Calibration of Cameras with Non.parallel Optical Elements," 24th International Conference on Pattern Recognition (ICPR), pp. 1875-1881, 2018

[9] **P. Fasogbon**, L. Fan, "Automatic Feature Extraction for Wide-angle and Fish-eye Camera Calibration," 24th International Conference on Pattern Recognition (ICPR), pp. 2947-2952, 2018

[10] **P. Fasogbon**, L. Duvieubourg, and L. Macaire, "Fast laser stripe extraction for 3D metallic objects," 42nd IEEE Industrial Electronics Conference (IECON), pp. 923-927, 2016

[11] **P. Fasogbon**, L. Duvieubourg, and L. Macaire, "A fast and precise peak detector for a 3D laser sensor," in proceedings of the 12th international FLINS Conference, 2016 (Springer scientific collection).

[12] **P. Fasogbon**, L. Duvieubourg, and L. Macaire, "Scheimpflug camera calibration using lens distortion model," in proceedings of IAPR international conference on Computer Vision and Image Processing (CVIP), 2016, Vol. 459 (Springer AISC).

[13] **P. Fasogbon**, L. Duvieubourg, P. A. La-

caze, and L. Macaire, “Intrinsic camera calibration equipped with scheimpflug optical device,” in proceedings of 12th international conference on Quality Control and Artificial Vision (QCAV), 2015, Vol. 9534, pp. 16–17.

Patents (Appear/To Appear)

[1] **P. Fasogbon**, M. Hannuksela, E. Aksu ”Storage and signaling of entrance pupil parameters for immersive media”, US Patent 11336812, 2022

[2] Y. You, **P. Fasogbon**, E Aksu, IDD Curcio, S Ahsan, VV Mattila ”Network-Based Spatial Computing for Extended Reality (XR) Applications”, US Patent App. 17/495329, 2022

[3] **P. Fasogbon et al.** STORAGE AND SIGNALING OF ENTRANCE PUPIL AND DISTORTION PARAMETERS IN IMAGE FILE FORMAT, 2022

[4] **P. Fasogbon et al.** VOLUMETRIC VIDEO SYNCHRONIZATION USING SPATIAL NEURAL ATTENTION NETWORK, 2022

[5] **P. Fasogbon et al.** OBJECT-BASED 3D AWARE OVERLAYS FOR 360-DEGREE IMMERSIVE VIDEO, 2022

[6] **P. Fasogbon et al.** SPATIAL COMPUTING SERVICE (SCS) SESSION DESCRIPTION FOR VOLUMETRIC XR CONVERSATION, 2021

[7] **P. Fasogbon et al.** ”REAL-TIME POINT-CLOUD ANIMATION USING SCALE CONSTRAINED INVERSE KINEMATICS”, 2021

[8] **P. Fasogbon et al.** ”METADATA FOR XR CONVERSATIONAL SCENE DESCRIPTION”, 2021

[9] **P. Fasogbon et al.** ”METADATA FOR LOW BANDWITH 3D AVATAR XR CONVERSATIONAL SERVICE”, 2021

[10] **P. Fasogbon et al.** ”MESH ANIMATION USING TRANSFORMED GRAPH DECODER (TGD) NEURAL NETWORK”, 2021

[11] **P. Fasogbon et al.** ”DEEP NEURAL NETWORK 3D TEXTURE USING WARPED SKIP CONNECTION”, 2021

[12] **P. Fasogbon**, G. Ranju, E. Aksu, and F. Cri ”SUPERVISED HUMAN TEXTURE FROM UV REPRESENTATION”, NC319282, 2019

[13] **P. Fasogbon**, E. Aksu, and A. Burian ”Intrinsic geometric calibration of non-central cameras using entrance pupil,” NC307099, 2018

[14] **P. Fasogbon**, and L. Fan, ”Automatic calibration of cameras with non-parallel optical elements,” NC104030, 2017