Citlalli Gámez Serna

PhD candidate

Computer Vision

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Born 1989, Mexican, single

Research Interests

- Deep learning, convolutional neural networks for object detection and classification.
- Reinforcement learning for autonomous vehicle control.

Education

2015–Present **PhD: Visual perception for path tracking in urban environments**, University of Technology of Belfort-Montbeliard, France.
Control and Computer vision fields

2012–2014 **Master Erasmus Mundus CIMET: Color in Informatics & Media Technology**, Uni. Jean-Monnet/Gjovik University Collage, France/Norway.
Key subjects : Computer vision - Advanced Video Processing - Color science - Machine learning & pattern recognition - Lighting and Image capture - Image and video compression - Image quality

2007–2011 **B.S. Information and Communication Technologies**, Instituto Tecnologico y de Estudios Superiores de Monterrey (ITESM), Mexico.
Key subjects : Information security - Computer networks I and II - Wireless networking - Network management - Development of videogames - Programming Languages - Databases

Experience

04/2018– 06/2018 **Teaching assistant**, UTBM, Belfort, France.
- Practical work guidance for students in course LP24 (Introduction to object conception and programming - JAVA)
- Projects proposals and evaluations.

03/2015– 06/2015 **Web developer**, Sipay Plus, Madrid, Spain.
- Development of new web functionalities for smart payments according to customer needs. This development consisted on functional analysis, integration and testing.
- Migration of Bootstrap framework from version 1.1.2 to 3.3.4, updating and adapting JS components.

01/2014– 03/2014 **Researcher (Internship)**, Centre de Recherche et de Restauration des Musées de France (C2RMF), Paris, France.
- 3D object reconstruction using photogrammetry technique.
- Development of mapping technology to combine high resolution images with detailed laser scans.

01/2012– 08/2012 **Certification Coordinator**, ITESM, Aguascalientes, Mexico.
- Documentation of B.S. in Information and Communication Technologies through program proofs, institution's installations and services.
- Organization and coordination of events and courses for students and teaching staff.

04/2011– 10/2011 **Videogame Developer Assistant (Internship)**, Phractal Studios, Aguascalientes, Mexico.
- 3D model creations in Maya for a snowboarding game in iphone and ipad. Exotic snowboards and objects related to the environment.
- Texture designs for objects and characters, painting over texture maps.
- Menu interface design.

02/2011– 06/2011	**IT Support Assistant (Internship)**, Nissan Mexicana, Aguascalientes, Mexico.
	○ Technical IT support to users' requests.
	○ Installation, configuration and maintenance of operating systems and software on PCs (Desktops, Laptops and Workstations).
08/2010– 12/2010	**Software Developer (Internship)**, 3D MEDIA, Aguascalientes, Mexico.
	○ Development of sales system through Visual Basic, mySQL and Cristal Reports (interface with different modules, database, automatic ticket impression).

Awards

| 2015 | Conacyt scholarship for PhD program Mexico-France. |
| 2012 | Erasmus Mundus (Catagory A) scholarship for CIMET Master program. |

Master's Thesis

Title	*Data fusion of objects using techniques such as Laser Scanning, Structured Light and Photogrammetry for Cultural Heritage Applications*
Supervisors	Researcher Ruven Pillay (C2RMF) & Professor Alain Trémeau
Description	This thesis fuses techniques in order to digitize objects of the Louvre museum providing photo-realistic appearance results together with accurate geometry.

Publications

- ○ C. Gámez Serna, and Y. Ruichek. **Traffic Signs Detection and Classification for European Urban Environments.** *IEEE Transactions on Intelligent Transportation Systems (2019).* Under review.
- ○ C. Gámez Serna, and Y. Ruichek. **Classification of Traffic Signs: The European Dataset.** *IEEE Access (2018).* [pdf][project]
- ○ C. Gámez Serna, and Y. Ruichek. **Dynamic Speed Adaptation for Path Tracking Based on Curvature Information and Speed Limits.** *Sensors 17, no. 6 (2017): 1383.* [pdf]
- ○ C. Gámez Serna, A. Lombard, Y. Ruichek, and A. Abbas-Turki. **Gps-Based Curve Estimation for an Adaptive Pure Pursuit Algorithm.** In *Mexican International Conference on Artificial Intelligence* pp. 497-511. Springer, Cham, 2016.
- ○ C. Gámez Serna, R. Pillay, and A. Trémeau. **Data fusion of objects using techniques such as Laser Scanning, Structured Light and Photogrammetry for Cultural Heritage Applications.** In *International Workshop on Computational Color Imaging* (pp. 208-224). Springer, Cham, 2015.

Technical (IT) Skills

Languages	Python, MATLAB, Java, HTML, CSS, JavaScript, C++, VB
Deep learning	Keras/Tensorflow, Caffe
Tools	Eclipse, MS Visual Studio, Adobe Photoshop, Maya, Blender, Meshlab
Others	Linux OS, Windows OS, Bootstrap, MySQL

Soft Skills

| ○ Teamwork | ○ Flexibility | ○ Problem solving |
| ○ Communication | ○ Self-management | ○ Multicultural environments |

Language Skills - ILR scale

Spanish	Native
English	Full professional proficiency
French	Limited working proficiency

References

- **Prof. Yassine Ruichek**
  Professor at University of Technology of Belfort-Monteblieard and EPAN Team Responsible
  yassine.ruichek@utbm.fr
- **Prof. Alain Tremeau**
  Vice Rector for International Relations, Professor at the Faculty of Sciences and Technologies -
  University Jean Monnet, Academic coordinator of master programs COSI and 3DMT
  alain.tremeau@univ-st-etienne.fr
- **Ruven Pillay**
  Researcher at Centre de Recherche et de Restauration des Musées de France
  ruven@c2rmf.cnrs.fr
- **Dr. Juan Manuel Campos Sandoval**
  Engineering Academic Director at Instituto Tecnológico y de Estudios Superiores de Monterrey,
  Campus Aguascalientes.
  manuel.campos@tec.mx