INGRID NAVARRO ANAYA

Former Computer Vision Intern at Carbon Robotics

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RESEARCH EXPERIENCE

Robotics Institute Summer Scholar

Carnegie Mellon University

📅 June 2018 – Aug 2018   📍 Pittsburgh PA, USA

Research on semantic segmentation of highly sparse 3D LiDAR data from low-end sensors using Deep Learning.

Robotics Institute Summer Scholar

Carnegie Mellon University

📅 June 2017 – Aug 2017   📍 Pittsburgh PA, USA

Research on object classification and detection systems using Deep Learning and Data Augmentation algorithms to perform detection of wheelchairs in cluttered environments.

WORK EXPERIENCE

Computer Vision Engineering Internship

Carbon Robotics

📅 July 2019 – Sept 2019   📍 Guadalajara, México

Participated in the design of a scheme to evaluate camera calibration accuracy using an OptiTrack motion tracking system and image-based plane detection techniques.

Computer Vision Engineering Internship

X-LAB Protexa R&D

📅 Dic 2018 – June 2019   📍 Monterrey NL, México

Design of an automatic visual inspection system to find paint defects on vehicle components.

Electronics Engineering Internship

Omius Robotic Clothing

📅 Dic 2016 – May 2017   📍 Monterrey NL, México

Participated in the design of a jacket that helps regulate body temperature based on the physical activity of a person and the environment conditions.

ACADEMIC PROJECTS

Computer Vision Team Lead at VantTEC (Unmanned Autonomous Vehicles Lab)

Tecnológico de Monterrey

📅 Jan 2018 – May 2019   📍 Monterrey NL

Lead the research and development of the perception system of an autonomous robotic boat for the International RoboBoat Competition by RoboNation. Main contributions:

Electronics Engineering Intern

Inflection Point Systems

📅 May 2016 – Nov 2016   📍 Monterrey NL, México

Coordinated a project to send weather balloons into the stratosphere to monitor weather quality and perform real-time data streaming.

Team Member at NaoBorregos

Tecnológico de Monterrey

📅 Jan 2018 – Mar 2018   📍 Monterrey NL, México

Participated with a Multi-Robot Soccer Team at the RoboCup Standard Platform League by the Mexican Robotics Tournament.

EDUCATION

B.S. in Digital Systems

ITESM - Tecnológico de Monterrey, México

📅 Aug 2014 – May 2019

GPA: 94 / 100

Computer Engineering Exchange Student

École Polytechnique de Montréal, Canada

📅 Aug 2017 – Dic 2017

CERTIFICATIONS

IBM Introduction to Data Science
IBM, Coursera (May 2019)

Neural Networks and Deep Learning
DeepLearning.ai, Coursera (Jan 2018)

Machine Learning
Stanford, Coursera (Oct 2017)

ACHIEVEMENTS

🏆 **Top student of the School of Engineering**
Tecnológico de Monterrey (Apr 2018)

🏆 **RoboCup Platform Soccer League Competition, 1st place.**
Mexican Robotics Tournament (Mar 2018)

🏆 **Emerging Leaders in the Americas Program (ELAP) Scholarship Recipient**
Government of Canada (Aug 2017)

🏆 **Hackathon MTY, Junior Category, 1st Place**
Major League Hacking (Mar 2016)

TECHNICAL SKILLS

Programming Languages
- C / C++
- Python
- MATLAB

Operating Systems
- Linux
- Windows

Others
- Tensorflow
- ROS
- OpenCV
- Git

LANGUAGES

Spanish (Native)   French (DELF B2)   English (TOEFL IBT 100)

PUBLICATIONS

📄 Working Papers Journal Articles

- Navarro, I. and L. Navarro-Serment (2018). "Real-Time Semantic Segmentation System of Sparse LiDAR Point Clouds using Lightweight CNNs and Recurrent CRF". in: *RISS Working Papers Journal* Vol. 6, pp. 105–111.
- Navarro, I. and L. E. Navarro-Serment (2017). "A Faster RCNN-Based Wheelchair Recognition System". In: *RISS Working Papers Journal* Vol. 5, pp. 125–132.

👥 Conference Proceedings

- Navarro, I., A. Herrera, et al. (2018). "Data Augmentation in Deep Learning-based Obstacle Detection for Autonomous Navigation on Aquatic Surfaces". In: *Advances in Computational Intelligence. 17th Mexican International Conference on Artificial Intelligence, MICAI 2018, Guadalajara, Mexico, Proceedings, Part II*. vol. 11289. Springer International Publishing, pp. 342–353.

INTERESTS

Computer Vision
Deep Learning
Machine Learning
Operating Systems
Robotics
Embedded Software
Microcontrollers