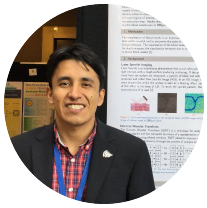
Francisco Javier López Tiro

francisco.lopez@ieee.org
https://friscolt.github.io
@friscolt
(+52) 22 26 65 54 83
Spanish (mother tongue), English (B1)



Education

Aug 2017 – Nov 2019

- **MSc in Biomedical Sciences and Technologies**,
  Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE),
  Biosignals and Medical Computing Laboratory
  Thesis: *"Visualización de vasos sanguíneos en imágenes de contraste basado en la descomposición de la transformada wavelet discreta"*.
  Supervisors: Hayde Peregrina-Barreto, and José de Jesús Rangel-Magdaleno

Aug 2011 – May 2015

- **BE in Mechatronics Engineering**,
  Universidad Politécnica de Puebla,
  Thesis: *"Modernización del control de propulsión y monitoreo de buques de la Armada de México"*.
  Supervisor: Salvador Antonio Arroyo-Díaz

Service

Oct 11, 2021

- **Volunteer,** LatinX in CV (LXCV) at the 2021 International Conference of Computer Vision (ICCV), Virtual.

Jun 19, 2021

- **Volunteer,** LatinX in CV (LXCV) at the 2021 Computer Vision and Pattern Recognition (CVPR), Virtual.

May 10-11, 2018

- **Volunteer,** Seminario Nacional de Ciencias y Tecnologías Biomédicas. Instituto Nacional de Astrofísica, Óptica y Electrónica. Puebla, Mexico.

Jan 2015 – Apr 2015

- **Resident,** Instituto de Investigación y Desarrollo Tecnológico de la Armada de México (INIDETAM), Secretaría de Marina (SEMAR). Veracruz, México

Employment

Aug 2020 – Now

- **Assistant professor** at Universidad Tecmilenio. Assistant professor of robotics, and head coach of EARTH 4723 robotics team.

- **Associate professor** at Universidad de los Ángeles. Associate professor of instrumentation and control, mechatronic design, electricity and magnetism, and numerical programming.

Employment (continued)

Nov 2019 – Now
- **Research assistant** at Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE). Department of Biomedical Sciences and Tecnologies.

Aug 2015 – May 2017
- **Associate professor** at Universidad de los Ángeles. Associate professor of signal processing, instrumentation and control, digital electronics, mechatronic design, circuit analysis and robotics.

- **Assistant professor** at Colegio de Educación Profesional Técnica del Estado de Puebla. Assistant professor of physics, mathematics, electronics and metrology. Head coach of F1 in Schools team.

Publications

Journal

Nov 2021
- "On the in vivo recognition of kidney stones using machine learning". G. Ochoa-Ruiz, F. Lopez-Tiro, D. Flores-Araiza, J. Elbeze, D.H. Trinh, M. Gonzalez-Mendoza, P. Eschwège, V. Estrade, J. Hubert, and C. Daul. *Computer Methods and Programs in Biomedicine*. (Submitted Nov, 2021).

Aug 2021
- "Visualization of blood vessels in in-vitro raw speckle images using an energy-based decomposition criteria on DWT coefficients". F.J. Lopez-Tiro, H. Peregrina-Barreto, J.J. Rangel-Magdaleno and J.C. Ramirez-San-Juan. *Biomedical Signal Processing and Control*, 2021.

Conference

Nov 2021
- "Assessing the generalization capabilities of few shot learning methods: a case study in endoscopic image classification". M. Mendez-Ruiz, F. Lopez-Tiro, V. Estrade, J. Hubert, G. Ochoa-Ruiz, D.H. Trinh, J. ElBeze, C. Daul, and M. Daudon. *Conference on Computer Vision and Pattern Recognition (CVPR), 2022.* (Submitted Nov, 2021).

- "SpeckleLab: A tool for visualizing and localizing blood vessels in Laser Speckle Imaging". F. Lopez-Tiro, E. Morales-Vargas, H. Peregrina-Barreto, J. Rangel-Magdaleno and J.C. Ramirez-San-Juan.*IEEE International Instrumentation and Measurement Technology Conference (I2MTC), 2022.* (Submitted Nov, 2021).

Oct 2021
- "Blood vessel localization in Laser Speckle Contrast Imaging: A machine learning approach". F. Lopez-Tiro, H. Peregrina-Barreto, J. Rangel-Magdaleno and J.C. Ramirez-San-Juan. *IEEE International Instrumentation and Measurement Technology Conference (I2MTC), 2022.* (Submitted Oct, 2021).

Publications (continued)

Oct 31 – Nov 04, 2021 — "Assessing deep learning methods for the identification of kidney stones in endoscopic images". F. Lopez, A. Varela, O. Hinojosa, M. Mendez, D.H. Trinh, J. ElBeze, J. Hubert, V. Estrade, M. Gonzalez, G. Ochoa, and C. Daul. *43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2021. (Accepted July, 2021)

May 17–20, 2021 — "Localization of Blood Vessels in in-vitro LSCI Images with K-Means". F. Lopez-Tiro, H. Peregrina-Barreto, J. Rangel-Magdaleno and J.C. Ramirez-San-Juan. *IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, 2021.

May 25–28, 2020 — "Effect of the Exposure Time in Laser Speckle Imaging for Improving Blood Vessels Localization: a Wavelet Approach". F. Lopez-Tiro, H. Peregrina-Barreto, J. Rangel-Magdaleno, J.C. Ramirez-San-Juan and J.M. Ramirez-Cortes. *IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, 2020.

May 20–23, 2019 — "Visualization of in-vitro Blood Vessels in Contrast Images Based on Discrete Wavelet Transform Decomposition". F. Lopez-Tiro, H. Peregrina-Barreto, J. Rangel-Magdaleno and J.C. Ramirez-San-Juan. *IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, 2019.

Skills

Languages — English, TOELF score 500.