JAIRO NARRO SILVA

Lima, Peru
(+51) 937 109 369
jairo.narro@utec.edu.pe
LinkedIn: linkedin.com/in/jaironarro
Portfolio: jaironarro.github.io/website

EDUCATION

University of Engineering and Technology (UTEC), Lima, Peru **2018 - 2023 (Expected)**
B.S. in Bioengineering. GPA: 15.89 out of 20

RESEARCH EXPERIENCE

National Institute for Telecommunications Research and Training (INICTEL) **February 2023 - Present**
Research Intern in Microfluidics
Project: Numerical Modeling, Microfabrication, and Characterization of Microfluidic Modules

- Selected as an intern to perform multiphysics simulations and assist in the fabrication and characterization of microfluidic devices for biological applications.

Purdue University, Birck Nanotechnology Center **January - March 2022**
Research Intern (Remote), Electron Microscopy Facility
Project: Automation of FIB-SEM Bitmap Milling for Micro-and Nanofabrication

- Investigated the formation mechanism of profile errors in 3D microstructures and optimization methods to improve fabrication accuracy in FIB bitmap milling.
- Developed a Graphical User Interface in Python to automate the generation of bitmap files and the micro/nanopatterning process.

Case Western Reserve University & Cleveland Clinic **June - August 2021**
Biomedical Engineering Intern (Remote)
Project: Joystick-operated Computer Mouse for People with Bilateral Amputation

- Designed a 3D CAD model of the prototype with Autodesk Inventor.
- Participated in fireside chats about the current research on biomedical engineering.

Technological University of Peru (UTP), IEEE EMBS **March - July 2021**
Biomedical Engineering Researcher (Remote)
Project: Selection of Voice Signal Parameters by Machine Learning for the Diagnosis of Parkinson's Disease

- Identified 3 voice parameters as potential biomarkers with the best model accuracy score of 97.8%
- Analyzed and visualized data using Python and Jupyter Notebook.

CONFERENCE PUBLICATIONS

Narro, J., & Diaz, R. (2022). A New Tool for Automation of Focused Ion Beam Bitmap Milling of Two-and Three-Dimensional Micro and Nanostructures. Microscopy and Microanalysis, 28(S1), 88-90. doi:10.1017/S143192762200126X

POSTER PRESENTATIONS

Narro, J., & Diaz, R. A New Tool for Automation of Focused Ion Beam Bitmap Milling of Two-and Three-Dimensional Micro and Nanostructures, IEEE NanoPeru 2022 Congress, November 2022.

Larriega, S., Loayza G., & **Narro, J.** CRISPR-based Microfluidic Biosensor for the Diagnosis of Infectious Diseases in Remote Areas of Peru, Cleveland Clinic – UTEC Summit 2022, October 2022.

ORAL PRESENTATIONS

Narro, J. Automation of Bitmap Files Generation for the Fabrication of Micro-and Nanostructures with a Focused Ion Beam, REPU Seminar 2022, April 2022.

Narro, J., & Garcia, V. Selection of Voice Parameters for the Diagnosis and Monitoring of Patients with Parkinson's Disease, Biomedical Engineering Research Program, IEEE EMBS Student Chapter – UTP, July 2021.

AWARDS AND RECOGNITIONS

Third place in Cleveland Clinic - UTEC Challenge 2022 **October 2022**
Poster competition on low-cost technologies in the post-pandemic era.

PRONABEC Continuidad de Estudios Scholarship 2022 **May 2022 - February 2023**
National need-based scholarship for higher education students with strong academic performance.

nanoREPU program 2022 **January - March 2022**
Selected for a three-month research internship at Purdue University, USA, Spring 2022.

EXTRA-CURRICULAR ACTIVITIES

AIChE - American Institute of Chemical Engineers, K-12 program **May - June 2022**
Organized science and engineering workshops for elementary and high school students.

REPU - Research Experience for Peruvian Undergraduates, Volunteer **June - July 2022**
Gave informative talks about the REPU program to undergraduate students and recent graduates.
Organized the annual meeting to share experiences between members and discuss new ways to improve the program.

REPU- Research Experience for Peruvian Undergraduates, Journal Club **January - March 2022**
Discussed research articles on nanotechnology and physics and prepared scientific presentations.

SBE - Society for Biological Engineering, Project Committee **August 2020 - August 2021**
Planned and organized workshops and activities centered on biotechnology and bioprocess topics.

Edukay, Volunteer Instructor **February 2021**
Taught +200 elementary and middle school teachers how to implement digital educational tools in their classes to improve online teaching during the pandemic.

Invent UTEC, CAD Software Teacher **July - August 2020**
Taught high school students 3D modeling and design with Onshape.

EXTRA-CURRICULAR COURSES

Nanotechnology: A Maker's Course, Research Triangle Nanotechnology Network, Coursera.
Introduction to Data, Signal, and Image Analysis with MATLAB, Vanderbilt University, Coursera.
Scanning Electron Microscopy, Microscopy Australia, Myscope
Focused Ion Beam, Microscopy Australia, Myscope

SKILLS

Laboratory:	Solution preparation, Optical Microscopy, Microbiological Culture, PCR, Electrophoresis, Spectophotometry, Protein Extraction, and Purification.
Bioinformatics:	MEGA X, PAUP, BioEdit, Bioconductor.
Software:	Autodesk Inventor, COMSOL Multiphysics, LabVIEW, Onshape, Multisim Live.
Programming:	Python, MATLAB, R
Additional:	SLA 3D printing