

Linnaeus Bundalian

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| CONTACT | Email : linnaeusbundalian@gmail.com Phone : +33648003816 Website : linnaeusbundalian.com |
| EDUCATION | Universitat Leipzig , Germany <i>Phd Student</i> 2021 - Present Universitat Rovira i Virgili , Spain <i>M.Sc., Biomedical Data Science (remote)</i> 2022 - Present Ecole Centrale de Lille , France <i>M.Eng., Biomedical Engineering</i> 2019 - 2021 Lyceum of the Philippines University (LPU), Calamba, Laguna <i>BSc in Computer Engineering</i> 2009 - 2014 |
| SCHOLASTIC AND OTHER ACHIEVEMENTS | <ul style="list-style-type: none">• Ecole Centrale de Lille <i>Mention bien</i> 15.6/20 - 2021• Scholarship for Advanced Studies - 2019• Data Science Scholarship - 2020.• Continental Temics Electronics Scholarhip - 2012.• University Scholarship - 2009 .• Dean's List (High performing University Students) - GPA 1.64 (1 as the highest)• Ranked 1st out of 19 Students of his specialization• TOEIC Language Test 900/990 2014. |
| PUBLICATIONS | The Role of Rare Genetic Variants Enrichment in Epilepsies of Presumed Genetic Etiology; 2023 Altered gene expression profiles impair the nervous system development in individuals with 15q13. 3 microdeletion; 2022 Obesity—An Update on the Basic Pathophysiology and Review of Recent Therapeutic Advances; Vol. 11 Biomolecules, 2021 Type 1 Fuzzy Logic Classification of Pain Severity (Pain Assessment); 6th International Conference Humanoid, Nanotechnology, Information Technology Communication and Control, Environment and Management (HNICEM), 2013 |
| RESEARCH EXPERIENCES | Inference of miRNA Expression in Single Cell level Feb 2021 - Jul 2021 Guide: Laurent Guyon (INSERM, France) This project intend to investigate the correlation between mRNA and miRNA to be able to build a model predicting miRNA expression in single cell level. |
| COURSE PROJECTS | Monte Carlo Simulation of Photon Transport in Biological Tissue Dec 2019 - Jan 2020 Guide: Yanick Dusch, Centrale Lille The objective of this project is to simulate how photons are transported in biological tissues for biomedical applications. The simulation was implemented through Monte Carlo Method on top of Python development environment. . Optical Pulse Oximeter Design Dec 2019 - Jan 2020 Guide: Marc Goueygou (IEMN), Centrale Lille The project is aimed to create a custom photoplethysmography device for measuring the oxygen saturation and pulse rate of a patient. |

Finger Orthosis for EDS Patients Jan 2020 - Feb 2020

Guide: Olivier Mayeur (BioTIM), Centrale Lille

The end goal is to create a orthosis to address the need of Ehler-Danlos patients (EDS) by providing a constraint on their hypermobile joints.

Characterization of Mechanical Properties of Bladder Tissue May 2020 - June 2020

Guide: Laure Astruc (BioTIM), Centrale Lille

A project designed to model the complex mechanical properties of soft tissues (i.e. bladder). Characterization was done using image processing of dataset from a custom tensile stress machine in the BioTIM laboratory.

Optimization of Foot Prosthesis Design June 2020 - July 2020

Guide: Olivier Mayeur (BioTIM), Centrale Lille

This project aimed to gather and compare existing designs of foot prosthesis, checking their ergonomic and mechanical efficiency through simulation. The observations from the simulation are used to come up with an innovative design addressing the common problems among the other designs.

Anthromorphic EMG-driven Prosthetic Arm Oct 2020 - Jan 2021

Guide: Olivier Mayeur (BioTIM), Centrale Lille

A design for a prosthetic arm was created aimed to address the need of a responsive arm replacement for amputees.

Fetal Head Modelling for Simulated Delivery Jan 2021 - Feb 2021

Guide: Olivier Mayeur (BioTIM), Centrale Lille

The aim of the project was to create a 3D fetal head model that can mimic the mechanical properties of fontanelles.

PROFESSIONAL
EXPERIENCES
(INDUSTRY)

Scientific Researcher - Universitat Klinikum, Germany Aug 2021 - present

- Build bioinformatic pipeline for upstream and downstream analyses
- Analyze genomic data and its association to biological processes and phenotypes

Operations Officer - SPACECrop, Hungary Jan 2022 - present

- Analyze user requirements
- Translate user requirements to software requirements and specification
- Manage the tasks and activities to meet the deliverables
- Manage and prepare the sprints and monitor the project's progress
- Define metrics to quantify project progress

Backend Developer - SPACECrop, Hungary Jan 2021 - Dec 2021

Aids in creating the backend services and creating a predictive model for soil moisture requirement of farms in Hungary.

Backend Developer - VCG Global, Philippines June 2020 - August 2021

Created the RESTful APIs bridging the Web user interface to the backend services, records and database.

Software developer - RCaldon Consultancy, Batangas, Philippines Dec 2017 - Sept 2019

Aids in creating the backend services for web application and IoT systems.

Test Engineer - Continental Temic, Philippines Jun 2014 - Oct 2020

- Monitor machine performance which includes but not limited to First Pass Yield (FPY), Overall efficiency (OEE) and Process Capability.
- Develop and maintain test programs for machines and products.
- Train people in operating machines and performing failure analysis.
- Perform analysis on test data and failed parts.

Software Developer - Freelance, Philippines

Nov 2013 - Oct 2020

Created software applications running on top of different platforms (desktop, web, IoT/MCU)

OTHER TRAININGS

- Genomics Virtual Lab (Pine Biotech) - 2020
- Next Generation Sequencing (Arkelin Philippines) - 2019
- Data Science Summer School (Lviv, Ukraine) - 2020
- PROJECT SPARTA PH: Data Science Track - 2020
- Bioinformatics Specialization (UCSD Coursera) - 2020
- Genomics Data Science (JHU Coursera) - 2020
- Data Science (JHU Coursera) - 2021
- Drug and Development Science (JHU Coursera) - 2021

SKILLS

Programming

R, Python, C#, .NET, VBA, C, C++, MATLAB, .NET Core, CVI, Rust, Julia

Database Management

RDBMS, SQL scripting in MS Access, MySQL, Oracle and Microsoft SQL

Web Development

HTML5, CSS3, ASP.NET MVC and Web Forms, WebAPI2, Bootstrap, jQuery, AJAX

Bioinformatics and Data Science

Statistical Modelling, Regression and Classification, Gene databases, TCGA, RNA sequence analysis, Single Cell Analysis, Bioconductor, Enrichment Analysis, BioJulia, BioPython, Differential Expression Analysis

Electronics

LTSpice, Circuit design and simulation, Amplification, Filtering, Arduino, Raspberry Pi, IoT

CAD

OnShape, AutoCAD, CATIA

Others

Finite state modelling (Simscale, COMSOL, Abaqus), Fuzzy Logic Tool Box, Vibration test, CAN analysis, Supervised machine learning

LANGUAGE

Filipino (native), English (2nd language), German (Beginner), French (Beginner)