Yiming Wei

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EDUCATION

École Polytechnique - IP Paris Sep 2022

M.Sc. in Mechanics / Biomedical Engineering Paris

GPA: 3.8/4.0; 15.77/20

Related courses: Solid Mechanics, Fundamentals of Fluid Mechanics, Introduction to BME I: Biomechanics, Sensors and Devices, Data sciences of biological imaging, Cell Biology and Physiology, Machine learning for images and object recognition

Nanjing University of Science and Technology. (Joint Programme with Lorraine University) Sep 2018 - Jun 2022

B.Eng. in Materials Science and Engineering - Sino-French School of Engineers Nanjing

GPA: 3.76/4.00; 90.21/100 (rank 1st)

Related courses: Fundamentals of Materials Science, Electrical Engineering, Analog & Digital Circuits, Analysis Methods in Materials Science, Materials Processing Technology

HONORS & AWARDS

Institut Polytechnique de Paris Scholarship	2022-2023
National Scholarship (Awarded by Ministry of Education of China: top 1%)	2019-2020
Globalink Research Internship (Awarded by Canada Mitacs: 200 people per year nationwide)	2021
Special Scholarships (Awarded by NJUST: top 1%)	2018-2019, 2018-2019 , 2019-2020
First-Class Scholarships (Awarded by NJUST: top 3%)	2018-2019 , 2019-2020

RESEARCH EXPERIENCE

Validation and PCB Design of a Novel Inductive Dual-frequency Link for Wireless Powering of Miniature Neural Implants Jul 2023 - Present

Prof. Sandro Carrara

BCI-EPFL

- Validation of WPT coil design and realize frequency matching
- PCB design of a novel inductive dual-frequency link

Diffusion and Clustering of Passive particles in a bath of Micro-algae Jun 2023 - Jul 2023

LadHyx Prof. Gabriel Amselem

- Grow micro-algae *Chlamydomonas reinhardtii*
- Studying experimentally the motion of passive micrometric beads immersed in a suspension of micro-algae

Segmentation and Statistical Analysis of Cellular Images using Deep-Learning Apr 2023 - Jun 2023

LadHyx Prof. Abdul Barakat

- Pre-process cell photos, label cells, train models using deep learning, and then count them
- Statistical analysis of the obtained data: diameter change, curve fitting

Development of a Microfluidic chip Activator for a New Tuberculosis Screening Tool Sep 2022 - Jun 2023

Epilab Dr. Manon Giraud

- Improvement of the activator motion algorithm
- Design new PCB and envelope of activator

Research on Two-dimensional WS2 in Ohmic Contact with Metal Electrodes Jan 2022 - Jun 2022

Graduation design - NJUST Prof. Xiang Chen

- Preparing single-crystal WS2 by CVD
- Comparing the contact mode and performance of conventional electrode contact and semi-metallic Bi electrode contact
- Optimizing the parameters to realize ohmic contact between electrodes and 2D materials under the new electrode

contact

Optimization of the Hygrothermal Performance of Building Envelope Systems May 2021 - Oct 2021

RA-Université Laval Prof. Alice Wang

- Learning about building envelopes and bio-based insulation materials in Quebec
- Using WUFI and COMSOL to simulate the hygrothermal properties of designed building envelope components
- Simulating the hygrothermal performance of the entire building envelope under Quebec climate conditions

Fast Frequency Measurement Technology of Wideband Channelized Digital Receiver Mar 2020 - Oct 2021

NJUST Prof. Shanhong Guo

- Simulation study of the channelization model of a multi-phase filter bank
- Simulation study and improvement of transient autocorrelation frequency measurement algorithm
- Design of hardware implementation of frequency measurement algorithms

PROJECT EXPERIENCE

IMA205 - Machine Learning for image and object recognition Mar 2023 - May 2023

Automated Cardiac Diagnosis Using Cardiac Magnetic Resonance Imaging (CMRI) and Machine Learning Kaggle - Télécom Paris

- Created a system using machine learning to accurately diagnose heart disease from cardiac MRI images.
- Improved the system's accuracy by addressing data segmentation issues and trained two models, achieving up to 89% accuracy.

BIO583 - Biological Imaging Data Science École Polytechnique

Diagnostic of retinal disease using OCT images & Machine Learning

- Developed a machine learning model to analyze and diagnose diseases from medical images.
- Improved model performance through image pre-processing and key feature extraction.
- Ensured the model's decisions were transparent and understandable using interpretability techniques.

MEC658C-Diagnostics and Treatment Feb 2023 - Apr 2023

Innovating for Better Patient Care: Wireless, Waterproof ECG Devices for Long-term Monitoring Hôpital Paris Saint-Joseph

- Clinical immersion for need identification and solution design
- Conceptual design of a wireless, waterproof ECG device for monitoring

PROFESSIONAL EXPERIENCE

thyssenkrupp steering Changzhou Ltd. May 2021 - Sep 2021

EE Lab Departement of Quality Changzhou

- Study of electric power steering systems in vehicles
- Error diagnosis of ECUs in products and design analysis

Skills and Languages

- Computer skills: C, Python, R, Arduino, AutoCAD, Solidworks, Comsol
- Microfabrication: CVD, metal evaporation, wet and dry etching, photolithography, SEM
- Languages: English (IELTS 6.5), French (delf-B2) , Mandarin (Mother tongue)