

Yan Yan

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EDUCATION

- Master of Biomedical Engineering, University Basel, Switzerland** 09.2023–Present
Core Course: Systems and Control, Robotics, MRI & Medical Image Processing, Computer-Assisted Surgery, Signal Processing, Neurotechnology, Biomaterials, Statistics
- B.Sc., Dental Technology, West China School of Stomatology, Sichuan University, China** 09.2020-06.2023
- First-class Scholarship for Academic Year 2021-2022, Sichuan University
 - Second-class Scholarship for Academic Year 2020-2021, Sichuan University
 - Merit Student, Academic Year 2020-2021, Sichuan University
 - SCU-PolyU Scholarship for Academic Year 2020-2021
- Mathematics, Sichuan University, China** 09.2019-07.2020
- Second-class Scholarship for Academic Year 2019-2020, Sichuan University

RESEARCH

- Self-locking Cuff Electrodes for the Nerve Stimulation** 10.2024-Present
Semester Project, Multi-Scale Robotics Laboratory, D-MAVT, ETH
- Developed a wireless, self-locking nerve cuff electrode tailored for nerve stimulation, based on a PNIPAM/PEGDA bi-layer hydrogel system with thermoresponsive properties.
 - Engineered and optimized hydrogel formulation and bilayer structure to enable tuneable cuff curvature for nerves of varying diameters.
 - Utilized a custom-built 3D printer for precise fabrication and structural prototyping.
- Course Project, Automated Ball Shooting System, Bio-Inspired Robots for Medicine-Lab, Unibas** 04.2024-06.2024
- Developed a PD-controlled ball launching platform with real-time control via Simulink Stateflow and Beckhoff TwinCAT 3, optimized using a multi-phase trajectory strategy.
 - Integrated infrared and piezoelectric sensors to detect successful throws and impacts for closed-loop performance evaluation.
- Course Project: Exam Scheduler Optimization** 05.2024-06.2024
- Developed and implemented Simulated Annealing and Genetic Algorithm approaches to solve the university final exam scheduling problem. Incorporated a penalty-based constraint handling mechanism to ensure feasible and efficient exam timetables.
- Course Project: Phone Tracking in Homogeneous Magnetic Field** 03.2024-06.2024
- Built a 3D magnetic tracking system using smartphone Hall sensors and PCB-based Helmholtz coils; implemented quadrilateration and lookup-table-based localization with sub-centimeter accuracy.

INTERNSHIP

- Intern, Chengdu DT Denture Technology Development Co., Ltd., China** 02.2023-06.2023
- Fabricated dentition using dental CAD software (exocad, 3Shape) and CAM technology
- Intern, West China Hospital of Stomatology, Sichuan University, National Center of Stomatology** 07.2022-06.2023
- Conducted intraoral, facial, and electronic facebow scanning.
 - Aligned dentition with facial reconstruction to simulate treatment outcome and aesthetic prediction.
- Intern, Chengdu Boltzmann Zhibei Intelligence Technology Co., Ltd., China** 06.2021-09.2021
- Assisted in CBCT-based dentition segmentation, landmark annotation, and software testing for a deep learning project.
 - Contributed to the publication “Deep Learning-based Automatic Annotation of Cervical Vertebrae on Lateral Cephalograms.”
- Yan Yan (Participant), et al. "Microorganisms: Enemies and Friends"** 10.2020-05.2021
- One of the participants of popular science books

SKILLS & INTERESTS

Language: Mandarin (native), English (proficient), German (basic)
Technical Skills: Python, SPSS, MATLAB/Simulink, COMSOL, C, AutoCAD, OnShape, LaTeX
Interests: Reading, Swimming, Travelling, Hiking