Yuwei YAN

Contact Details

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Education

• University of Macau **Aug. 2025-Present**
Ph.D. student of Electrical and Computer Engineering, DMF Group, AMSV/IME

• University of Manchester **Sept. 2020-Dec. 2021**
Master of Mechanical Engineering Design GPA: 78.83% *Rank: Top 3%*

• Beijing Institute of Technology **Sept. 2016-Jun. 2020**
Bachelor of Weapon Launch Engineering GPA: 87.25% *Rank: Top 15%*

Work Experience

• School of Biomedical Engineering, University of Sydney **Feb. 2024-Oct. 2024**
hBMS Lab-Research Assistant *Remote*

• FiberHome Telecommunication Technologies Co., Ltd. **Jan. 2022-Apr. 2024**
User Experience Designer-Mechanical Design Engineer *Wuhan, China*

Research Outputs

• **Yan Y**, Cho AN. Human Brain In Vitro Model for Pathogen Infection-Related Neurodegeneration Study. *International Journal of Molecular Sciences*. 2024;25(12):6522-6522. DOI: https://doi.org/10.3390/ijms25126522

• Wang J, Chen Y, Lan X, **Yan Y**, Li J, Zhang Y. Modularized Deformable Unmanned Aerial Vehicle Structure. 2022;(CN113104213B). Accessed July 5, 2022. https://patents.google.com/patent/CN113104213B/en?oq=CN113104213B

• Wang J, Chen Y, Lan X, **Yan Y**, Li J, Zhang Y. Control Method of Modular Deformable Aircraft. 2022;(CN113253753B). Accessed September 9, 2022. https://patents.google.com/patent/CN113253753B/en?oq=CN113253753B

Projects

• Human Pancreatic Organoids for Type I Diabetes Modelling **Jul.2024-Oct.2024**
Role: Researcher Work: Summarize reagents and antibodies used in cell differentiation and organoid cultivation; Organized medium reconstitution for protocols; Filtered antibodies for immunostaining.

• In Vitro Retinal Model for Disease Modelling and Therapeutics Study **Jun.2024-Sept.2024**
Role: Researcher Work: Conducted the literature review of optical physiology including retinal cells and function, animal models on common retinal diseases, 2D retinal cultures used in therapeutic screening.

• Human Brain Micro-Physiological Platform for Virus Infection Modelling and Treatment Screening **Feb. 2024- Oct.2024**
Role: Researcher Work: Designed the microfluidics platform for cerebrospinal fluid containing brain organoids; Manufactured by PDMS lithography and 3D printing technology; Conducted fluid simulation.

• Structural Design of A 10G PON Home Gateway **Sept. 2022-Apr. 2024**
Role: Engineer Work: Designed the internal structure of shells, compatible with 7 PCBs; Designed the heatsink for CPU and shielding cover for BOSA module; Conducted FE analysis for drop test in Abaqus.

• Structural Design of A Vertical Home Gateway **May. 2022-Mar. 2024**

Role: Engineer *Work: Designed the base bracket and internal structure of shells, compatible with 4 PCBs; Design the heatsink for WiFi module; Standardized the test methods for LED brightness.*

• Dual-Chamber Bioreactor for Bone and Cartilage Tissue **Dec. 2020-Dec. 2021**

Role: Researcher *Work: Designed a bioreactor with pistons for the interface of two different types of tissues; Conducted the FE analysis in Fluent for scaffolds of different porosity in bioreactor.*

• Jumping Rover for the Extreme Environment **Nov. 2020-May. 2021**

Role: Coordinator *Work: Designed the rover chassis structure; Reduced the weight by conducting the topology analysis in Ansys; Designed the intermittent transmission mechanism for stepper motor.*

• Vertically Driven Double Parallelogram Configuration of Embedded Ejection Device **Jan. 2020-May. 2020**

Role: Researcher *Work: Analyzed the multi-body dynamics of the scheme and optimized the position in Adams; Designed the 3D structure of the ejection device and conducted the FE analysis for the strength.*

• Modular Assemblable Multi-Rotor UAV **Oct. 2017-Jun. 2019**

Role: Manager *Work: Designed the rack structure for single-module and reduced the weight for UAV; Designed the hinge-slideway mechanism for different assemble conditions; Composed the patents.*

• Micro-UAV System with Inspection and Response Functions **Jun. 2017-Sept. 2017**

Role: Manager *Work: Designed the fuselage truss, door buckle and rebound mechanism; Analyzed the structural strength for the folding mechanism in Ansys; Optimized the airfoils and wings in XFLR5.*

• Aircraft with Joined-Wing Configuration **Apr. 2017-May. 2017**

Role: Designer *Work: Designed and modeled the joined-wing structure; Conducted the FE analysis for velocity, pressure and turbulence conditions in Fluent; Designed the rotatable airfoil mechanism.*

Awards

• Faculty of Engineering Research Scholarship *for the HDR Student of USyd* **Nov. 2023**
• First prize *of Quality Control Circle Outcomes Presentation of 2023 of FiberHome* **Sept. 2023**
• Outstanding Academic Achievement: Taught *for MSc Mechanical Engineering Design of UoM* **Dec. 2021**
• Excellent Student Scholarship *for four consecutive years (2016-2020) of BIT* **Jun. 2020**
• Chinese Government Scholarship *for the Exchange Student of Mississippi State University* **Jun. 2019**
• First prize *of the 10th Challenge Cup-Capital College Technological Production Competition* **Jun. 2019**
• Grand prize *of the 15th Century Cup-College Technological Production Competition of BIT* **May. 2018**
• Science and Technology Competition Scholarship *for 2017-2018 Academic Year of BIT* **May. 2018**
• Grand prize *of the 7th Aircraft Innovation Competition of BIT* **Jan. 2018**
• Innovation prize *of the 5th International UAV Innovation Grand Prix* **Nov. 2017**
• First prize *of China Aeromodelling Design Challenge* **Sept. 2017**
• Third prize *of the 14th Century Cup-College Technological Production Competition of BIT* **May. 2017**
• Excellent Social Investigation Individual *in the Winter Social Practice* **Apr. 2017**

Skills

Modeling: Creo, AutoCAD, SolidWorks, CATIA ***Analysis:*** ANSYS, ABAQUS, ADAMS
Programming: C, MATLAB, LabVIEW ***Languages:*** English, Chinese
Industry Knowledge: Quality Control, Statistical Process Control, FEMA, 6 Sigma, TRIZ

Test Scores

GRE: 325/3.5 IELTS: 7.5

Research Interests

Microfluidics, Medical Robots, Wearable Biosensors, Bioprinting, Bioreactor, Brain-Computer Interfaces