Jiang Bo-Yu

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Education

Tongji University *Sep. 2021 – Jul. 2026 (expected)*
B.E in Communication Engineering

- **GPA:** 91.3/100 **Overall rank:** 1/69 (currently)
- **A+ Courses:** Principles of Communication(Full Marks), Machine Learning and Data Processing, Signal and System, Digital Siganl Processing, Physics Principles in Medicine, Probability and Mathematical Statistics, High-Level Language Programming, Neuroscience and Neuropsychiatry Disorders, etc.

Project Experience

Clock signal design in IoBNT based on protein oscillation. *Tongji University*
Supervisor: Prof. Lin Lin *Sep. 2024 - Current*

- Designing protein oscillators based on protein circuit.
- Simulation and evaluation the clock signal in molecular communication systems.

Artificial cell division based on the oscillation by De Novo protein design *Wetlake University*
Supervisor: Prof. Zibo Chen (Science & SciLifeLab Prize Awardee) *Jun. 2024 - Oct. 2024*

- Quantitative analysis of oscillatory phenomena based on computer vision.
- Segmentation and statistics using SAM and Fiji for confocal microscopy cellular imaging.
- Modeling protein circuits and diffusion processes based on ODEs.

A Neural Communication System to the Detection of Neurological Diseases *Tongji University*
Supervisor: Prof. Lin Lin *Nov. 2023 - Current*

- Construction of an experimental platform for nerve information transmission based on bullfrog sciatic nerve.
- Design, processing, and testing of neural communication system.

AeroEye: Intelligent Aero Engine Inspection System Based on Snake-like Robot *Tongji University*
Supervisor: Prof. Peng Qi *Nov. 2022 - Current*

- Leader of the National Undergraduate Training Program for Innovation
- **Featured in CGTN's annual documentary *China: Race to the Future*.**
- **Selected for a poster presentation at the National Undergraduate Innovation Conference**.
- Aero-engine damage recognition and classification based on computer vision.
- Design and testing of IoT system of the robot.

Publications

A Comprehensive Model of External and Internal Interference in Neural Communication Systems for Enhanced IoNT Performance 10.1109/JIOT.2025.3541150
Jiang Boyu, Jin Zhuoqun, Usman Riaz Muhammad, Abd El-atty Saied, Liu, Fuqiang, Lin Lin
IEEE Internet of Things Journal (IF=8.2, JCR Q1, 97%)

An Engineered Neural Communication System Based on CDM Scheme for the Internet of Bio-nano Things Minor Revision (Revised Manuscript Submitted)
Jin Zhuoqun, Chen yao, ***Jiang Boyu***, Lin Lin
IEEE Transactions on Molecular, Biological, and Multi-Scale Communications (JCR Q2)

Clock Synchronization of IoBNT Using Self-Sustaining Oscillations via Protein Circuit Design Under Review
Jiang Boyu, Yu Wenlong, Lin Lin
IEEE Internet of Things Journal (IF=8.2, JCR Q1, 97%)

Patent: Control Method, System, Storage Medium and Terminal for a Robot for Engine Inspection Substantive Examination Stage, Mar. 2023
Peng Qi, ***Jiang Boyu***, Sun Yujie **(Student First Author)**

Patent: An Intelligent Traffic Signal Control Method, System, and Program Product Based on Agent-ARIMA Substantive Examination Stage, Jan. 2025
Peng Qi, ***Jiang Boyu***, Ke Yusong, Bu Xiaosheng **(Student First Author)**

Selected Honors and Awards

- **National Scholarship** for Undergraduate Students *(Top 0.4%)*, Dec. 2024.
- **Grand Prize**, Huawei ICT (Information and Communication Technology) Competition Global Final *(Top 0.03%, flagship projects of key partners of the UNESCO Global Skills Academy)*, May 2024.
- **First Prize**, East China Division of National University Student IoT Design Contest, Aug. 2023.
- **Gold Award**, China International College Students' Innovation Competition (Shanghai Division), Nov. 2024.
- **First Prize** of COMAC's Operation Support Competition (The only finalist project submitted by university), Dec. 2024.
- Second Prize in the 6th Global Campus Algorithmic Elite Competition on Artificial Intelligence, Dec. 2024.
- The distinguished B. E. academic scholarship in Tongji University, 2022 & 2023.
- The distinguished social work and activity scholarship in Tongji University, 2022, 2023 & 2024.

Miscellaneous

Programming Languages: Python, LaTeX, C/C++, MATLAB, Verilog HDL.

Language Proficiency: CET 6: 519, IELTS: In preparation

Societal Responsibility and Leadership Ability:

- Outstanding Student Leader in Tongji University *(Top 1%)*, Nov 2024.
- Sessional volunteer for Hongqiao Forum of the 5th China International Import Expo *(Sessional secretary of Intel China Vice President)*.
- Head of Department, Student Science and Technology Association, Tongji University.