Yinggang Tian

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Education

Monash University   Jul 2025 - Present

Master of Artificial Intelligence Faculty of Information Technology   Melbourne, Australia

- **Core Courses:** FIT5047 - Fundamentals of Artificial Intelligence, FIT5215 - Deep Learning
- **Research Interest:** Medical AI, Computer Vision, Edge Computing Optimization

Northwestern Polytechnical University Mingde College   Sep 2016 - Jul 2020

Bachelor of Communication Engineering   Xi'an, China

- **Relevant Coursework:** Numerical Analysis, Signal Processing & Systems, Software Engineering, C Programming
- **Academic Achievements:** First Prize in Mathematical Modeling Competition, Multiple Provincial Math Competition Awards

Professional Experience

HL Mando, China Software R&D Center   Jun 2023 - Jun 2025

Senior Research Engineer Braking ADAS   Suzhou

- Led algorithm design and prototype development for braking-related Advanced Driver Assistance Systems (ADAS)
- Developed perception and decision logic modules that integrate sensor inputs and produce braking decisions under real-time constraints; implemented core modules in C++/Python and collaborated with embedded teams for vehicle integration
- Worked on dataset curation and annotation pipelines for scenario-driven testing; designed offline training/validation workflows and online evaluation metrics for braking scenarios
- Performed runtime profiling and optimization to meet hard latency deadlines: identified CPU/GPU and I/O bottlenecks, applied algorithmic simplifications and pipeline optimizations to reduce inference latency; prepared artifacts for OTA/prototype deployment
- Coordinated with system engineers on ECU interfacing, diagnostic logs, and safety checks; contributed design documents and verification reports

iFLYTEK   Nov 2022 - Jun 2023

Software Engineer Intelligent Audio Effects Division

- Led R&D for Ethernet-based audio transmission proof-of-concept; selected IEEE 1722 for audio transport and 802.1AS for time sync after standards research and comparative analysis
- Implemented diagnostic and network management modules for in-vehicle audio platform using AUTOSAR-style state machine; responsible for DID-based info retrieval and control routines
- Developed embedded debugging workflows with J-Link and IAR; participated in system-level integration and test

Huawei Suzhou Research Institute   Jul 2020 - Nov 2022

C/C++ Software Engineer In-vehicle Networks   Suzhou, China

- Contributed to development of vehicle gateway platform: diagnostics, network management, software upgrade and routing modules

- Independently developed a vehicle gateway product for Jiangling project — end-to-end development including detailed design, testing and documentation
- Hands-on experience with CAN, Ethernet, TBOX comms, UDS diagnostics; familiar with Vector CANoe, Lauterbach, ZCANPro workflows

Research Projects

AI-Powered Interactive System Design and Implementation   Oct 2018 - Jul 2020
Framework Designer & Algorithm Developer

- **Cloud-Deployed AI System:** Designed scalable architecture for AI voice recognition API optimization using machine learning
- **Hardware Integration:** Developed custom hardware circuits for AI voice recognition interaction systems
- **Advanced Neural Networks:** Implemented and compared CNN vs RNN architectures for speaker recognition, establishing Bidirectional RNN (BRNN) as optimal network structure
- **Loss Function Optimization:** Comprehensive analysis of 8 loss functions (Sigmoid Cross-Entropy, Softmax Loss, Triplet Loss, Center Loss, etc.) for speaker recognition performance
- **Framework Proficiency:** Gained expertise in PyTorch and TensorFlow for deep learning implementation
- **Industry Practices:** Applied DevOps and Agile development methodologies in research environment

Microsoft Xiaoyuan COVID-19 Q&A Chatbot   Jan 2020 - Apr 2020
Development Engineer

- Built comprehensive knowledge base for COVID-19 related inquiries during Wuhan outbreak
- Deployed chatbot across WeChat and open-source communities
- **Core Technology:** Microsoft Dialog Engine for intelligent pandemic response system

Skills & Technologies

Languages: Python, C/C++, MATLAB

Deep Learning: TensorFlow, PyTorch, Computer Vision

Automotive: AUTOSAR, CAN/Ethernet protocols, Embedded Systems

Tools: Vector CANoe, Lauterbach, J-Link, IAR, WordPress, XMind

Research Recognition & Awards

- Chinese Academy of Sciences Summer Program Graduate Certificate
- Shanghai Institute of Advanced Studies Winter Camp Excellence Award
- First Prize - National Mathematical Modeling Competition (University Level)
- Third Prize - Blue Bridge Cup Programming Competition (Provincial Level)
- Second Prize - National Mathematics Competition (Provincial Level) × 2
- Second Prize - Shaanxi Mathematics Competition × 2
- Outstanding Student Award × 2