Chen Haofei

Gesture Recognition Device
Optimization Engineer

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Date of Birth: January 27, 1993

Educational Background

2016. 09 – 2026. 03:

Nanjing University of Science and Technology, Master of Instrument Science and Technology (Admitted as a doctoral student in 2016; transferred to master's program in 2025)

2012. 09 – 2016. 06:

Nanjing University of Science and Technology, Bachelor of Testing Technology and Instruments

Core Courses

Modern Measurement and Control Electronics Technology, Optoelectronic Testing Technology, New Sensor Technology, Matrix Analysis and Computation I, Navigation, Positioning and Target Detection & Recognition, Photoacoustic/Photothermal Detection Technology, Telemetry Technology Principles and Applications, etc.

Academic Performance

Outstanding comprehensive ability; awarded the Second-Class Scholarship of the university in 2017 and 2018.

Core research direction: Developing wearable sign language recognition technology for the hearing-impaired, including kinematic modeling, sensor layout optimization, adaptive algorithm research and development, and system construction & verification. It solves problems such as complex equipment, with a recognition accuracy exceeding 90%.

Project Experience

2020.06 - 2020.09: A Certain Overpressure Explosion Acquisition Test (Project Leader)

Equipment Operation and Maintenance: Deployed and maintained shock wave overpressure sensors, ground vibration sensors, etc.; installed strain gauges at specific positions, welded acquisition circuits, and arranged full-sensor acquisition cables and on-site test observation points.

Fault Diagnosis: Developed multiple methods (including mechanical filtering and algorithmic filtering) for signal anomalies in the strong magnetic environment generated by explosions, and conducted data optimization based on simple particle swarm optimization algorithms and neural networks.

System Development: Compiled a visual monitoring interface and automatic data packaging & sending program based on the LabVIEW platform, and packaged the self-written program into an executable program running on multiple platforms.

2019.06 - 2019.08: A Certain Overpressure Acquisition Test (Project Leader)

Construction of Data Processing System: Designed dynamic and static testing schemes for a certain type of traction gun under strong impact, strong magnetic and strong vibration environments.

Equipment Deployment and Maintenance: Deployed more than 20 sensor nodes (including overpressure shock wave sensors, hydraulic internal pressure detection sensors, vibration sensors, strain sensors) for 24/7 operation.

Custom Equipment Development: Designed and produced a variety of customized small test instruments based on 51 single-chip microcomputers and STM32 chips; compiled simple driver programs based on C++; designed and produced chip configuration circuits, power supply system circuits, multi-channel controller system circuits, mechanical filter circuits, etc., using Altium Designer.

On-site Rapid Processing: Compiled on-site rapid data processing and analysis programs to achieve minute-level visual output of key indicators.

2018.06 - 2018.07: A Certain Multi-Dimensional Extreme Data Acquisition Test (Project Leader)

Equipment Deployment and Operation & Maintenance Management: Arranged various equipment such as laser triggers, infrared temperature sensors, high-speed cameras, and acoustic locators; responsible for revising on-site test schemes and arranging front-end test observation points during experiments.

Optimization of Data Processing Flow: Utilized two professional data acquisition instruments (16-channel and 32-channel), compiled automatic acquisition programs based on the instruments' built-in platforms, and developed a simple communication protocol to integrate data in two formats into the same platform.

Academic Achievements

- 基于多尺度卷积神经网络的连续手语精准识别研究，《现代电子技术》2026 年第 8 期. （已录用）

- Chen H .Biomechanical feature extraction for robust sign language recognition with applications[J].Molecular & Cellular Biomechanics, 2025, 22(3):1322. （EI，已见刊）

- Lightweight Sign Language Intelligent Recognition Model Based on Improved R-C3D, 《Egyptian Informatics Journal》.(SCI 2区，已录用）