

Hongquan He

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21 | Han Nationality | GPA 3.67



Educational Background

Undergraduate: *Henan University* **Major:** *Electronic Information Science and Technology* 2019.09 - 2023.06
Professional Grade: **89.96** **Rank:** **3/66** CET 4: 460
Merit Student: twice Scholarship of Henan University: once
National Individual Scholarship: once Enterprise Scholarships: twice
Detailed Grade: *P.S. Professional courses are taught in English.*
Engineering Calculus I / II / III: 98/89/85 ODE: 98 Linear Algebra: 92 Fundamentals of Engineering Probability: 98
Data Structure: 98 Analogue Circuits I / II: 93 (Experience: 81)/93 (Experience: 98) Signals & Systems: 93
Microcontroller Principle: 98 Digital Circuit: 97 Logic Design: 92 Discrete Signal: 91

Research Experience

Pipeline Defect Measurement and Location System Design based on Binocular Vision, 2021-2022, National Innovation and Entrepreneurship Training Program (Item No. 202110475031, Excellent Project Closed in 2022.05)

• **Project Content:** Proposed a fully functional system for measuring and locating pipeline defects.

• **Work Undertaken:** I am a core member of the project and am responsible for the following:

- (1) Improvement of small target detection algorithm in low light environment
- (2) Python implementation of binocular visual localization
- (3) Embedded deployment of intelligent algorithms
- (4) Construction of the GUI on the PC

★ Achievements

- (1) Patent for Invention: A Method for Identifying and Locating Pipeline Defects based on Target Detection and Binocular Vision
- (2) Patent for Utility Model: A Pipeline Defect Positioning and Ranging Adjustment Device Based on Binocular Stereo Vision

Academic Competitions

[1]. The 14th National Student Computer Design Competition / Baidu Cup	2021.05-2021.08	Second Price (National)
[2]. China Undergraduate Mathematical Contest in Modelling (CUMCM)	2021.09	Second Price (National)
[3]. China Artificial Intelligence Innovation Competition	2021.11-2021.12	Second Price (National)
[4]. Asia & Pacific Mathematical Contest in Modeling (APMCM)	2021.11	Third Price (National)
[5]. National Undergraduate Electronics Design Contest	2021.11	First Price (Provincial)
[6]. Mathematical Contest in Modeling (MCM/ICM)	2022.03	Honorable Mention
[7]. National Software Talent Design & Entrepreneurship Competition	2022.04	Third Price (Provincial)
[8]. The 24th China Robotics and Artificial Intelligence Competition	2022.05	Second Price (Provincial)
[9]. The 15th National Student Computer Design Competition /AI Track	2022.04-2022.06	First Price (Provincial)
[10]. Physics Experiment Competition of HENU	2021.06	Third Price
[11]. Mathematical Contest in Modeling of HENU	2020.12	First Price
[12]. Computer Design Competition of HENU	2021.05	Second Price

Social Activities

- [1]. Outstanding Editorial of the Publicity Department of the CPC Henan University Committee 2020.06-2021.06
- [2]. Excellent Person in Social Practice in the countryside of HENU 2022.05

Self-description of Professional Competence

1. Courses taken via the internet or subject lectures in addition to those required for the major are.

[1]. Circuit Principles, Prof. Yu Xinjie, *Tsinghua University*; [2]. Analog Integrated Circuits, Prof. Razavi, *University of California*; [3]. Machine Learning Courses, Prof. Andrew Wu, *Stanford University* & Prof. Hongyi Li, *National Taiwan University*; [4]. Algebraic Representation Theory, Prof. Tsung-Ju Lin, *Kansas State University*; [5]. Topological Degree and Applications, Prof. Yisong Yang, *New York University*

2. Undergraduate exposure to research in *vision-based object detection algorithms, binocular ranging, and sub-pixel segmentation*.