

# Haotian Wang

+1 336-929 4934 | [starrywangv8@gmail.com](mailto:starrywangv8@gmail.com) | [www.linkedin.com/in/haotianwang08a4931b5](https://www.linkedin.com/in/haotianwang08a4931b5)

## EDUCATION

<b>Duke University</b> <i>Master of Engineering in Computer Engineering</i>	Aug. 2022 – May 2024 Durham, NC
<b>North Carolina Agriculture and Technical State University</b> <i>Bachelor of Science in Electrical and Computer Engineering</i>	Aug. 2019 – May 2021 Greensboro, NC
<b>Henan Polytechnic University</b> <i>Bachelor of Science in Electrical Engineering</i>	Sept. 2016 – July 2019 Jiaozuo, China

## PROFESSIONAL EXPERIENCE

<b>Duke University</b> <i>Research Assistant</i>	May 2024 – Present Durham, NC
<ul style="list-style-type: none"><li>Developed an original analysis framework to evaluate current technologies for improving the safety and reliability of autonomous vehicles, currently drafting a paper to be featured in Professor Kishor Trivedi's upcoming book.</li></ul>	
<b>Electric Power Research Institute (EPRI)</b> <i>Assistant Engineer (Student Employee)</i>	June 2023 – Aug. 2023 Charlotte, NC
<ul style="list-style-type: none"><li>Developed a VBA-based software tool to analyze over 400k data points from a large-scale energy storage pilot plant, increasing data processing efficiency by 20% and enabling enhanced data visualization capabilities.</li><li>Independently researched and authored 3 comprehensive reports for the Energy Storage Technology Database (ESTD), accelerating ETL cycle by 15% and providing crucial insights into the latest trends.</li></ul>	
<b>Nuclear Power Operations Research (Shanghai) Co., Ltd.</b> <i>Research Assistant</i>	Dec. 2021 – Apr. 2022 Shanghai, China
<ul style="list-style-type: none"><li>Contributed to the R&amp;D process for the "Method for predicting and diagnosing abnormal temperature of bearing bush of steam turbine generator unit", resulting in the successful publication of patent CN116929758A.</li><li>Developed a predictive diagnostic early-warning model using 100k+ power plant DCS data points, increasing operational efficiency by 15% and reducing resource consumption 10%.</li></ul>	

## ACADEMIC PROJECTS

<b>Intelligent Edge-Cloud Control System with RAG &amp; NLP</b>   <i>Duke University, USA</i>	March 2024 – May 2024
<ul style="list-style-type: none"><li>Built an NLP-powered edge device control system using RAG (Rust/Qdrant), enabling real-time sensor monitoring and commands via Docker/Kubernetes deployment with 99.8% uptime.</li><li>Automated CI/CD (GitLab/GKE) for model serving, reducing deployment latency 40% by rolling updates.</li></ul>	
<b>GenAI-Enhanced NLP Sentiment Analysis of Movie Reviews</b>   <i>Duke University, USA</i>	Nov. 2023 – Dec. 2023
<ul style="list-style-type: none"><li>Led a sentiment analysis project on a 50k IMDB reviews dataset, employing GenAI techniques such as tokenization and data augmentation for pre-processing, achieving an overall accuracy rate of 88% in gauging public opinion.</li><li>Deployed a GenAI-enhanced Naive Bayes model with 92% accuracy, and collaborated with the neural network team to optimize model performance, reducing sentiment analysis processing time to 5 seconds.</li></ul>	
<b>License Plate Recognition: Traditional and Deep Learning</b>   <i>Duke University, USA</i>	Oct. 2023 – Dec. 2023
<ul style="list-style-type: none"><li>Led the development and comparison of traditional OCR methods and convolutional neural networks (CNN) for license plate recognition, achieving over 95% accuracy in 130 seconds on a test dataset of 100k images.</li><li>Directed a team to design and implement four unique approaches to recognize license plates, delivering a detailed final report and optimizing processing efficiency by 35% through method refinements.</li></ul>	
<b>CAN to Middleware Connectivity Bridge</b>   <i>NCAT &amp; John Deere Company, USA</i>	Sept. 2020 – May 2021
<ul style="list-style-type: none"><li>Developed a prototype CAN bus system integrated with MQTT for IoT messaging, improving message delivery time by 15%, and implemented an automated visualization and control system for precise timing thresholds.</li><li>Enhanced system functionality by improving data analytics and robotics capabilities, increasing operational time efficiency by 20%, and expanding cloud computing integration.</li></ul>	

## TECHNICAL SKILLS

**Programming:** Python, C/C++, R, MATLAB, VBA, SQL, Rust  
**Developer Tools:** Microsoft Office, Git, Arduino, Docker, Figma, Zola, AWS, MySQL, Tableau, Kubernetes, CI/CD