Chenyu Zhang

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EDUCATION

Whiting School of Engineering, Johns Hopkins University (JHU), MD, U.S.A. Jan. 2021 – now
M.S.E. program in Robotics

School of Electronic Information Engineering, Beihang University (BUAA), Beijing, China
Bachelor of Engineering in Electronic Information Engineering Sep. 2016 – Jun. 2020

- **Major**: Electronic Science and Technology
- **GPA**: 3.67/4.0
- **Rank**: 2/35
- **Core Courses**: Calculus (96/100), C Language Design (96/100), Linear Algebra (99/100), Fundamental Physics (100/100), Complex Function (98/100), Control Theory, Digital Signal Processing, Stochastic Process Theory, Communication Theory, Information Theory

National University of Singapore (NUS), Singapore Jul. 2019 – Sep. 2019
Visiting student, Department of Electrical and Computer Engineering

RESEARCH PUBLICATIONS

1) Zhonghan Zhang, Yancao Jiang, **Chenyu Zhang**, Chun Zhang, and Xiangyu Li. "The Optimization of Localization and Navigation for Vision-Based Robot", *IEEE International Conference on Integrated Circuits, Technologies and Applications* (ICTA 2019), p.180-181, 13-15 Nov. 2019.
2) **Chenyu Zhang**, Cunjun Ruan, "Investigation of W-band High Power TWT Amplifier with Broadband Output Window". *PhotonIcs & Electromagnetics Research Symposium* (PIERS 2019), p.560-565, 17-20 Dec. 2019.
3) Renjie Li, Cunjun Ruan, Ayesha Fahad, **Chenyu Zhang**, and Shasha Li. "Broadband and High-power Terahertz Radiation Source Based on Extended Interaction Klystron", *Scientific Reports*, 2019, 9:4584.

INDUSTRY EXPERIENCE

Momenta, Beijing, China Aug. 2020 – now

- Designed proper algorithms to optimize the reprojection error of HD maps based on g2o framework
- Wrote scripts to process large scale data in Python
- Learned to manage files and commands on Ubuntu operation system

RESEARCH EXPERIENCES

Design of Scanning Sensor for Ground Flatness Measurement, NUS Jul. 2019 – Sep. 2019
Research Assistant | Advisor: Prof. Loh Ai Poh

- Designed and built scanning sensor based on Lidar, which can calculate ground flatness based on distances and angles of returned signal
- Performed detailed analysis on Lidar sensing resolution by developing program in MATLAB
- Constructed experimental system consisting of Lidar connected with Raspberry Pi, performed hardware experiment, and processed collected data
- Successfully demonstrated feasibility of developed sensor and achieved agreement between experimental results and theoretical analysis

An Improved K-means Algorithm in Multi-track Image Recognition, Tsinghua University
Advisor: Professor Chun Zhang Mar. 2019 – Feb. 2020

- Identified deficiencies of traditional K-means algorithm and proposed new clustering algorithm to solve multi-track image recognition problem
- Implemented proposed algorithm, performed experiment, and benchmarked its performance with state-of-the-art clustering algorithm
- Analyzed down-sampling performance of proposed algorithm thoroughly
- Broadened algorithm into clustering circles and curves; analyzed thoroughly the anti-noise performance, accuracy and efficiency of total algorithm
- First-author paper (submitted to ICIP 2021)

Design of Broad-band Slow Wave Structure and Output Window for 94GHz Staggered Double-vane Traveling Wave Tube, BUAA May 2018 – Sep. 2019
Advisor: Professor Cunjun Ruan

- Designed and developed a planar distributed three-beams SDV-SWS with broadband input/output diamond windows at center frequency of 95GHz
- Achieved good dispersion characteristics and transmission properties with ultra-wide band
- Used electromagnetic simulation software like CST Studio to design, simulate and test model
- Demonstrated a high output power and a broad band for W-band SDV-TWT without any oscillation
- Completed first-authored paper (accepted by PIERS 2019) and a co-author paper (submitted to IEEE Transactions on Terahertz Science and Technology)

AWARDS AND HONORS

Jun 2020, University **Outstanding Undergraduate Student**
Jun 2019, Yuanhang Undergraduate Summer Overseas Research Scholarship
May 2019, Third Prize of Innovation and Entrepreneurship Scholarship by Ministry of Industrialization and Information Technology
Nov 2018, **PI** of National Undergraduate Training & Research Program for Innovation and Entrepreneurship, evaluated **Excellent Project**
Dec 2018, **Outstanding Award** of University Academic Scholarship (top 3%)
May 2018, **First Prize** of CUPT (China Undergraduate Physics Tournament) in North China Division, as the **Captain** of the Team II
Feb 2018, Honorable Prize of MCM/ICM
Dec 2017, **First Prize** in the Physics Competition in University
Dec 2017, Outstanding Scholarship (top 5%)
Nov 2017, **First Prize** of University Outstanding Study Scholarship (top 5%)
Oct 2017, Competitive-world Scholarship (top 1%)

SKILLS AND INTERESTS

Language:	English (fluent), Chinese (native) **TOFEL:** 104 (29+25+25+25) | **GRE:** 323 (V156+Q167+3.0)
Computer:	C/C++, Python, MATLAB, Verilog
Mathematics:	Calculus, Complex Analysis, Differential Equation, Linear Algebra, Probability Theory
Interests:	School band Ⅱ (violinist), school chorus; Social Sciences (Game Theory, Psychology); Volunteer as science teacher at the local primary school