Chenyu Zhang

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EDUCATION

School of Electronic and Information Engineering, Beihang University (BUAA), Beijing, China   Expected June 2020

Bachelor of Science in Electronics 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), Analog Circuit, Digital Circuit, Digital Signal Processing, Stochastic Process Theory, Microwave Technology, Communication Theory, Information Theory

National University of Singapore (NUS), Singapore   July – Sept. 2019

Department of Electrical and Computer Engineering

RESEARCH PUBLICATIONS

1) Tuo Xie, Hanjin Jiang, **Chenyu Zhang**, Ting Wang, Chun Zhang, and Zhihua Wang. "Model-based K-means Clustering for Lane Detection", submitted to *Electronic Letters*, Nov. 2019.

2) Zhonghan Zhang, Yancao Jiang, **Chenyu Zhang**, Chun Zhang, and Xiangyu Li. "The Optimization of Localization and Navigation for Vision-Based Robot", accepted for lecture presentation by *IEEE International Conference on Integrated Circuits, Technologies and Applications* (ICTA 2019), full paper in press.

3) **Chenyu Zhang**, Cunjun Ruan, "Investigation of W-band High Power TWT Amplifier with Broadband Output Window". accepted by *PhotonIcs & Electromagnetics Research Symposium* (PIERS 2019), full paper in press.

4) 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*, issue 9, no. 4584, Mar. 2019.

RESEARCH EXPERIENCES

Design of Scanning Sensor for Ground Flatness Measurement, NUS   July – Sept. 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

Application of Improved K-means Algorithm in Multi-track Image Recognition, Tsinghua University   Mar. 2019 – Present

Advisor: Professor Chun Zhang

- 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

- Co-authored a paper (submitted to *Electronic Letters*) and a first-author paper

Design of Broad-band Slow Wave Structure and Output Window for 94GHz Staggered   May 2018 – Sept. 2019
    Double-vane Traveling Wave Tube, BUAA

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, which has been accepted by PIERS 2019

AWARDS AND HONORS

- Yuanhang Undergraduate Summer Overseas Research Scholarship   *Jun 2019*
- Third Prize in Class B of Innovation and Entrepreneurship Scholarship by   *May 2019*
  Ministry of Industrialization Information
- **Excellent Ranking** in National Undergraduate Training Program for Innovation and Entrepreneurship   *Nov 2018*
- Special Award of Academic Scholarship (top 3%)   *Dec 2018*
- Led team to win **First Prize** in China Undergraduate Physics Tournament in North China Division   *May 2018*
- Honorable Prize of MCM/ICM   *Feb 2018*
- **First Place** in the Physics Competition in Beihang University   *Dec 2017*
- Outstanding Scholarship (top 5%)   *Dec 2017*
- **First Prize** of Outstanding Study Scholarship (top 5%)   *Nov 2017*
- Competitive-world Scholarship (top 1%)   *Oct 2017*

SKILLS AND INTERESTS

Language: English (fluent), Chinese (native)
    TOFEL: 98 (26+25+23+24) | **GRE:** 323 (V156+Q167+3.0)

Computer: C, MATLAB, Verilog, Python, SQL

Mathematics: Calculus, Complex Analysis, Differential Equation, Linear Algebra, Probability Theory

Interests: Social Sciences (Game Theory, Psychology), enjoy reading books on Deep Learning; Volunteer as science teacher at the local primary school; school chorus, school band ‖ (violinist)