Chenyu Zhang

Apartment Building 13, Beihang University, Beijing, China

(+86) 136 8102 6015 zhangcy_buaa@163.com

angelicaz.github.io

EDUCATION

School of Electronic and Information Engineering, Beihang University (BUAA), Beijing, China *Sep 2016 to present*

- Bachelor in Electronics Science and Technology
- Overall GPA: 3.67/4.0
- Ranking: 2/35 (Top 1 in all female students)
- 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

Department of Electrical and Computer Engineering, National University of Singapore, Singapore *Jul 2019 to Sep 2019*

- Full-time research assistant in Prof. Loh Ai Poh's group

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 EXPERIENCE

Design of Scanning Sensor for Ground Flatness Measurement | RA *Jul 2019 to Sep 2019*

Advisor: Loh Ai Poh, Associate Professor and Director of Design-Centric Program, National University of Singapore

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

Application of Improved K-means Algorithm in Multi-track Image Recognition *Mar 2019 to present*

Advisor: Chun Zhang, Associate Professor, Institute of Microelectronics, Tsinghua University

- Identified the deficiencies of traditional K-means algorithm, and proposed a new clustering algorithm to solve the multi-track image recognition problem
- Implemented the proposed algorithm, performed experiment, and benchmarked its performance with state-of-the-art

clustering algorithm

- Analyzed the down-sampling performance of the proposed algorithm thoroughly
- Broadened the algorithm into clustering circles and curves, analysis thoroughly the anti-noise performance, accuracy and efficiency of the total algorithm
- Completed a co-author paper (submitted to *Electronic Letters*) and a first-author paper

Design of Broad-band Slow Wave Structure and Output Window for 94GHz Staggered Double-vane Traveling Wave Tube *May 2018 to Sep 2019*

Advisor: Cunjun Ruan, Professor, Department of Electronics Science and Technology, BUAA

- Designed and developed a planar distributed three-beams SDV-SWS with broadband input/output diamond windows at the center frequency of 95GHz
- Achieved good dispersion characteristics and transmission properties with ultra-wide band
- Skilled in using the electromagnetic simulation software like CST Studio to design, simulate and test the model
- Demonstrated a high output power and a broad band for the W-band SDV-TWT without any oscillation
- Completed a first-authored paper, which has been accepted by PIERS 2019

AWARDS AND HONORS

- Yuanhang Undergraduate Summer Overseas Research Scholarship *Jun 2018*
- **Excellent Ranking** of National Undergraduate Training Program for Innovation and Entrepreneurship *Nov 2018*
- **Special Award** of Academic Scholarship (top 3%) *Dec 2018*
- **First Prize** of CUPT (China Undergraduate Physics Tournament) in North China Division, as the **Captain** of the Beihang Team II *May 2018*
- Honorable Prize of MCM/ICM *Feb 2018*
- **First Prize** of 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*

TECHNICLE STRENGTHS

- Language ability: English (fluent), Chinese (native)
- Standard English Tests: TOFEL 98(26+25+23+24), GRE 323(156+167+3.0)
- Computer skills: C, MATLAB, Verilog, Python, SQL
- Mathematics: Calculus, Complex Analysis, Differential Equation, Linear Algebra, Probability Theory

EXTRACURRICULAR ACTIVITIES

- Interest in other fields: take classes on Social Science (Game Theory, Psychology), read books on Deep Learning
- Volunteer: volunteer as science teacher in the local primary school
- Sports: top 1 among the female students in the 2.4 km test
- Arts: took part in school chorus and used to play violin in the school band II