Chengzhe **Jia**

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Education Background

UCSD (University of California San Diego)

California, USA

M.S. in Mechanical and Aerospace Engineering

Sept. 2021 - Jul. 2023

- **GPA:** 3.84/4.00
- **Selected Relevant Courses:** Topics in Engineering Science-Design of Haptic Systems (A), Robotics (A+), Linear Control Design (A+), Robot Motion Planning (A), Topics in Engineering Science-Electric Power System Modeling (A-), Advance Technics in Computational Math I (A)

BJUT (Beijing University of Technology)

Beijing, China

B.S. in Measurement and Control Technique and Equipment

Sept. 2016 - Jul. 2020

- **GPA:** 3.49/4.00
- **Award:** The Third Scholarship of BJUT (top 30%)
- **Selected Relevant Courses:** Computer Language Training (90/100), Fundamentals of Circuit Analysis(91/100), Fundamentals of Mechanical Accuracy Design (Bilingual)(80/100), Course Design of Precision Machine Design (86/100), Electrical and Electronic Technology Courses(97/100), Circuits for Measurement and Control (87/100), Course Design of Sensing and Testing Technology (87/100)

Publications

Percussion Characteristic Analysis for Hydraulic Rock Drill with no Constant-Pressurized Chamber through Numerical Simulation and Experiment

Advances in Mechanical Engineering

Third Author

Apr. 2019

- W. Ma, X. Geng, **C. Jia**, etc. Percussion Characteristic Analysis for Hydraulic Rock Drill with no Constant-Pressurized Chamber through Numerical Simulation and Experiment, Advances in Mechanical Engineering 2019, Vol. 11(4) 1–11. DOI: 10.1177/1687814019841486

Professional Experience

Sim2Real Manipulation on Unknown Objects with Tactile-based Reinforcement Learning

Xiaolong Wang's Lab, UCSD

Full-Time Research Assistant

Mar. 2023 - NOW

- Supervisor: Prof. Xiaolong Wang.
- Assist with hardware building.
- Troubleshooting on both hard-and-software side.
- Conducting experiments.
- Learning about Reinforcement Learning Techniques.
- **The article has been submitted** to CoRL 2023 (Conference on Robot Learning).

Controlling the Motion of Gas-Lubricated Adhesive Disks using Multiple Vibration Sources

Bioinspired Robotics and Design Lab, UCSD

Sole Project Leader

Mar. 2022 - Jun. 2023

- Supervisor: Prof. Michael T. Tolley.
- Using CAD to design and manufactured different robot models.
- Design and build experimental platform.
- Using SolidWorks design and 3D-printed accessories for experiments.
- Using Tracker(video analysis and modeling tool) to gather data from recorded video.
- Using Matlab and Excel to process and analyze experimental data.
- Create figures and complete academic article writing.
- **The article has been submitted** to FRAI journal (Frontiers in Robotics and AI).

Other Course Projects While Studying at UCSD

UCSD

Core member

Sept. 2021 - Jun. 2023

- **Controlling the Motion of a UR3 Robot-arm**
- **Custom Haptic Device 'Hapkit' Building**
- **"Steering Wheel" Design with Force Feedback**
- For more detailed information, please refer to my homepage [https://jaking98.github.io/]. Courses and projects overview with videos are provided.

Measuring Instrument Operation

Institute of Metrology, National Institute of Metrology, China

Lab Intern *Jun. 2019 - Jul. 2019*

- Supervisor: Dr. Yao Huang.
- Learned the practical operation of measuring instruments like angular gage block, dividing head, and autocollimation.
- Mastered the use of Trioptics and processed measured data by Excel.
- Conducted inspection instruments test.

Percussion Characteristic Analysis for Hydraulic Rock Drill with no Constant-Pressurized Chamber through Numerical Simulation and Experiment

School of Mechanical Engineering, USTB

Research Assistant (the only undergraduate in Group of Seven) *Nov. 2018 - Feb. 2019*

- Supervisor: Prof. Fei Ma.
- Installed the pressure sensor according to the sampling frequency.
- Collected the hydraulic data of dual-channel through acquisition instrument of LMS SCADAS Mobile and software of LMS Test Xpress 7A.
- Self-learned the Simulink of Matlab and built a model to analyze data.

Multifunctional Robot Design for Family Safety

National University Student Innovation Program, BJUT

Core Member in Group of Five *Dec. 2017 - Aug. 2018*

- Supervisor: Senior Engineer Shuwen Sun.
- Adopted 51 SCM as the lower program control system and used Keil software to write the program.
- Employed STM32F103 SCM to the core control part, and controlled the skills of the environment configuration and library function call to complete upper computer program by C#.
- Modified the wireless remote control car with modules of temperature-humidity, smoke sensor, humidifier, monitoring, and obstacle avoidance.
- Awarded **the Second Prize** of the 12th iCAN International Contest of Innovation (BJUT Division).

Automatic Food Pickup Robot Design

Spark Fund Project, BJUT

team Leader in Group of Five *Dec. 2016 - Aug. 2017*

- Supervisor: Senior Engineer Shuwen Sun.
- Acquired the use of Keil software and 51 SCM (single chip microcomputer) and applied them to the installation and modification of the intelligence vehicle.
- Achieved the function of path recognition, line-tracking, and sign identification based on the infrared sensor using C.
- Awarded **the Certification** of 18th Spark Fund Project.

Skills

Mathematical Software:

• MATLAB • Julia • LabVIEW • SPSS

Drawing & Modeling Software:

• CAD • Fusion 360 • SolidWorkes

Computer Language:

• Python • C# • Android Studio

Other System & Software:

• Arduino • Processing • Blender • Tracker • Latex • Markdown • Ubuntu • Linux

Hands-on Skill:

• Structural Design • Prototype production • Circuit soldering • Silicone molding

Standard Tests

TOFEL	Total:100 (Reading 27 | Listening 27 | Speaking 23 | Writing 23)	*05/11/2019*
GRE	Total:331 (Verbal 161 /88% | Quantitative 170 /96% | Analytical Writing 3 /15%)	*10/20/2019*