



## JiaYong Zhou (Jay Youth)

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### EDUCATION

#### Southern University of Science and Technology (SUSTech)

Biomedical Engineering (BME)

GPA: 3.64/4.00 Rank: 18/45 Weight Average Score: 88.23/100 Major Score: 3.76/4.00

Languages: IELTS: 6.5

#### Main courses:

Medical Image Processing (88), Medical Materials and Devices (93), Machine Learning and its Medical Engineering (91), Biomedical Optics (92), Intelligent Sensing Technology (94), Principles of Medical Imaging Systems (97), Quantitative Physiology I and II (94 and 93), Clinical Perception for Biomedical Engineering (97)

Sep 2019 - Jun 2023

Shenzhen

### HONORS & AWARDS

National Encouragement Scholarship (Top 10% in SUSTech)

Oct 2020

The First Global Undergraduate Engineering Research and Practice Summer School Project --Team Best Product Award (One out of nine teams)

Jul 2021

National Encouragement Scholarship (Top 10% in SUSTech)

Oct 2021

First-class scholarship for outstanding students (Top 5% in SUSTech)

Oct 2022

### RESEARCH EXPERIENCE

#### Bacterial-encapsulation Natural Polymeric Microspheres (Bachelor Thesis)

Sep 2022 - Present

(Supervised by Chair Prof. Decheng Wu from BME and Prof. U Kei Cheang from MEE)

Utilization of various FDA-approved biomaterials and fabrication approaches to produce bacterium encapsulation microspheres employed in oral administration and magnetic controlled movement.

#### Two-Electrode ECG Front End Common Mode Rejection Circuit Design

Oct 2022 - Present

(Cooperative projects with enterprise HONOR)

Novel circuit simulation and PCB establishment to enable common mode rejection and realize two-electrode ECG signal acquisition effectively.

#### Engineered Bacterium with Controllable Suicide Gene Induced by L-Arabinose

Oct 2021 - Sep 2022

(The national key research and development plan "Synthetic Biology" key special project "Directional synthesis and diagnosis and treatment application of micro-nano biological robot" project) (Supervised by Chair Prof. Decheng Wu)

Design of exogenous plasmid transferred into *escherichia coli*, endow the capability of controllable suicide characteristics for a relatively safe and green bacterial lysis.

#### Steady-State Visual Evoked Potential (SSVEP) Based Brain-Computer Interface

Jul 2021 - Sep 2021

Work on reconstructing a 48-characters SSVEP-based BCI spelling system employing a novel stimulus coding method, which can code 48 commands with 4 frequencies and their combination.

### SKILLS LIST

#### Experimental Skills:

Cell/bacterium culture, construction of plasmid utilizing SnapGene, plasmid extraction, plasmid transfection, nanodrop, agarose gel electrophoresis, western blot, confocal microscopy usage, SEM usage, granulometric analysis, zeta potentiometry, UV-Vis spectra, microfluidic chip droplet production platform, and coaxial airflow spraying platform setting.

#### Programming Skills and Tools:

Languages: MATLAB, Java, Python.

Jetbrains: MATLAB, IntelliJ IDEA, Anaconda, Py-Charm, Jupyter Notebook, Overleaf, Zen, SolidWorks, AutoCAD, LTspice.

### EXTRACURRICULAR ACTIVITIES

#### Academic Counseling Mentor

Aug 2022 - Present

Provide one-to-one appointment consulting services on academic improvement, interpersonal communication, research introduction, and major selection.

#### College Freshman Tutor

Jul 2021 - Jul 2022

Helped freshmen integrate into campus life. Organized class meetings and class members' team building. Accumulated volunteer service time for more than 50 hours.

#### College Student Union Member

Oct 2019 - Oct 2020

Secretary Department and Innovative Technology Department

SUSTech Shuli College

Drafted and formulated the association constitution. Organized college events including guest lectures on topics, and the 2020 evening party for college freshmen.