

ZIYE HONG (洪梓烨)

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EDUCATION

- 2017.9-2021.6 **SUN YAT SEN UNIVERSITY (SYSU)**
- Major: Aeronautical and Astronautical Engineering
 - Bachelor of Engineering, *due in June 2021*
 - Cumulative GPA: 85/100
 - Scholarship based on Outstanding Academic Performance for 3 consecutive years
- 2021.9-2022.7 **SHENZHEN INNOX ACADEMY** <https://innoxsz.com/>
- **Courses** jointly taught by Hong Kong University of Science and Technology, Southern University of Science and Technology, Cheung Kong Graduate School of Business and industrial experts: **Robotic System Design, Internet of Things and Mobile Awareness**, Basic Sensor Principle and Technology, Design Thoughts, Entrepreneurship, etc
 - On-site Visit to Industrial Plants: Sinocare Healthcare, Hai Robotics, Pony.AI, etc
 - Supervised research: an intelligent wheelchair with aided-driving technology (undergoing)
 - Full financial support

PUBLICATION & PATENT

- ✓ **Ziye Hong**. Prediction of 2019-nCoV Epidemic by Linear Regression Model. *ACM ICPS*. ISBN: 978-1-4503-8860-3, July 2020
- ✓ Hui Cheng, Hao Luo, Zhihang Liu, **Ziye Hong**. A novel chassis-detachable storage and output sphere. CN111202966A. May 29, 2020
- ✓ Hui Cheng, Hao Luo, Zhihang Liu, **Ziye Hong**. A Bionic Comb Device for Cleaning Flexible Column. 202010846745.5. submitted on August 21, 2020

PROJECTS & CONTESTS

- 2021.7-2021.8 **XbotPark2021 Intelligent C-Terminal Scientific Innovation Camp**
Supervisor: Prof. Zexiang Li from Hong Kong University of Science and Technology
- Learned the fundamental courses of product design and visited the robot production lines at DJI-Innovations, 3iRobotix, etc.
 - Designed independently and produced a safe fishing-aid bait adding solution
 - Earned 2nd prize in the summer camp
- 2021.1-2021.6 **Advanced Technology Research Institute MicroLab of Sun Yat-sen University**
Supervisor: Prof. Tianjiang Hu
- Achieved target detection on the UAV fuselage key points by Convolutional neural network (modified YOLO algorithm) in Linux system
 - Recorded the sequence charts of the UAV flight tests, obtained the labeled dataset with LabelImg
 - Adopted two attitude estimation algorithms based on PnP to compare the accuracy and speed: EPnP method and POSIT iterative algorithm
 - Summarized the findings in academic writing and earned the honor of “Excellent Thesis Work”
- 2019.6-present **Bee Bionic Research Group** *supervised by Associate Prof. Jianing Wu*
- Detected the bee’s behavior of tentacle cleaning via high-speed camera, further observed the secondary structure, and measured the parameters of the structure via confocal laser scanning microscope
 - Designed and manufactured the cleaning structure in SolidWorks and 3D printer, measured the force of friction and cleaning efficiency by a sensor
 - Concluded that the cleaning structure with secondary structure are with greater force of friction and higher cleaning efficiency
- 2020.2-2020.6 **Prediction of 2019-nCoV Epidemic by Linear Regression Model**
Supervisor: Dr. Rakesh Kumar, University of Illinois Urbana Champaign, USA
- Attended the online course on Artificial Intelligence

- Adopted Python to glean data about 2019-nCov Epidemic from January to February, such as the number of infected patients, deaths, infection rate, mortality, and visualized the data on the basis of province categorization
- Predicted the mortality of different provinces via linear regression model learned from the course, ameliorated the existing model after the existing mortality as the second variable and obtained more accurate prediction
- Conducted academic writing and presented the work on ACM ICPS

2019.05-2019.11 **Matlab Cup Unmanned Aerial Vehicle (UAV) Contest** *Chief Member*

- Received systematic training in UAV control system and image recognition technology
- Programmed in MATLAB SIMULINK to carry out the image recognition

2018.01-2019.06 **RoboMaster Youth Tournament** *Chief Member*

- Assumed as the chief engineer to take in charge of the mechanical design of the robot via SolidWorks, Ansys structure analysis, 3D printing and metal processing techniques, and the testing of the electronic control
- Led the team to win multiple honors in the national contests, including *Superior Appearance Design*, conducted academic writing and won the patent authorization

2018.10-2019.04 **Software Innovation Contest of SYSU** *Chief Member*

- Developed WeChat mini program via WeChat developer toolkit, stored data via Ali cloud server
- Achieved the image transmission in TeamViewer from UAV to mini program of the users
- Earned 2nd prize in the University contest and the Best Popularity Award

2018.01-2018.06 **The Challenge Cup Business Plan Contest for National College Student** *Team Leader*

- Proposed the innovation of shared UAV for aerial photo, and teamed up to carry out the project
- Design the overall business plan and the demonstration of proposed software production
- Earned 3rd Prize

2016.6-2016.12 **The Dynamic Analysis of Writing Brush Furcation Phenomenon Based on Experiments**

Supervisor: Associate Professor Qinghe Yao, Dr. Wenhao Cai from Sun Yat-sen University

- Established physical model and carried out verification experiments on writing brush furcation
- Visualized the experimental data in Matlab and verified the model
- Summarized the finding in academic writing and published on the Yau Mathematical Sciences Center, Tsinghua University
- Earned the honor of the Global Gold Award in the Shing-Tung Yau Physics Contest for Middle School Students

PROFESSIONSL SKILLS & HOBBIES

Programming Language: Fortran, C, Python, MATLAB

Professional Software: Visual Studio, Pycharm, MATLAB, SolidWorks, Adams, Proteus, Ansys (ICEM, cfd++)

Machine Learning: basic knowledge about classification, regression, and clustering.