[Li], [Yuxuan]
[Shanghai Jiao Tong University]
[Aerospace Engineering] (expected in 06.2019)

EDUCATION

Major GPA: 88/100; Ranking: 4/27 in SJTU;
GPA: 4.0 in UCLA-CSST Program;
Ranking 1st core courses: *Engineering Thermodynamics (97)***,** *Aircraft Design (97), CFD(90), Aviation Human Factor(98)*
Other core courses: *Introduction to Aerospace Engineering (93), Flight Dynamics (91), Aerodynamics (90,90), Solid and Structural Mechanics (85), Aircraft Structural Mechanics (85), Automatic Control Principle (87), Propulsion Principle (86), Aerospace Laboratory (88,89), Computational Methods (86)*
Language Proficiency: TOFEL(iBT):102**;** Been selected to the pilot class of English in the freshman year (**Top3%**)

PUBLICATIONS AND PATENTSs

Yuxuan Li, Zi'ang Wang, Bin Yu, Bin Zhang, Hong Liu; ***A reduced-order mixedness model for late evolution of shock-elliptical light cylinder interaction*** (submitted to *Shock Waves*) 2018 (publication)
Junqi Wu, Daxiong Wu, Haochen Liu, Yuxuan Li, Kangyan Xu; ***Double-Rotor tailstock type vertical take-off and landing Rotary-flying unmanned aerial vehicle*** (Publication No. CN207433798U) 2018 (China patent)

RESEARCH EXPERIENCES

A Low-dimensional Vortex Model on a Surging Airfoil JUL 2018 – SEP 2018
UCLA Mechanical and Aerospace Engineering Department **|** Independent Researcher **(UCLA-CSST Program)**
Advisor: **Prof. Jeff D. Eldredge**, MAE Department, UCLA

- Using "PotentialFlow.jl" package written in **Julia (**Hybrid Vortex Model) to study a surging plate. Compare the results with the solution of "Whirl.jl" package, which uses the **immersed boundary projection method,** for contrast.
- Proved that the inviscid low-dimensional vortex model is about 1000 times faster than immersed boundary method with acceptable errors.
- Discovered that the vortex model tends to underestimate the normal force exerted to the plate, which can be explained by the ignored interactions between the vortex and boundary layer and the chaotic vortex distributions when convective time is large.

Reduced-order Mixedness Model for Shock-Bubble Interaction
SJTU School of Aeronautics and Astronautics**|** Independent Researcher MAY 2018 – NOV 2018
Advisor: A/Prof. Bin Zhang, School of Aeronautics and Astronautics, SJTU

- Researched **Shock Bubble Interaction** with NS programs written in **Fortran**. Acted as the primary author in investigating the long-term evolution of mixedness.
- For long-term evolution, using **a correlation coefficient** between the Hydrogen fraction field and the vorticity field to indicate the evolution stages.
- Proposed **a reduced-order model of mixture,** with only two degrees of freedom by simplifying the Hydrogen fraction distribution to be a **2D gaussian distribution**. Such progress makes the prediction of mixture for SBI in the long term be possible, which is a key problem of scramjet combustion.

Dual Rotor Tailstock VTOL UAV Design and Test
SJTU Aircraft Sports Club**|** Independent Researcher SEP 2016 – NOV 2017
Advisor: Lecturer Junqi Wu, School of Aeronautics and Astronautics, SJTU

- **Originator**. Responsible for a Project named 'Dual Rotor Tailstock VTOL UAV', which is a Shanghai College Students Innovative Activities Program. Machine can take off vertically and transfer to fix-wing flight mode.
- Responsible for test flying; engaged in the layout design of the aircraft, the design of spares such as tails, the manufacture process of the aircraft and the settings of Pixhawk and CC3D autopilots and test-flying.
- Gain various prizes including 1st Prize of Qian Xuesen Cup and Challenge Cup and Best Practical Ability Award in Honeywell Star Program (**Honeywell Aerospace Innovation Competition**) and a patent.

Wind Tunnel Testing Software and Hardware Design
SJTU Turbofan Technology Engineering Institute **|** Research Assistant AUG 2016 – APR 2018
Advisor: A/Prof. Xiaoqing Qiang, School of Aeronautics and Astronautics, SJTU

- Developed a software with GUI by **Visual Basic** to control 3-Axis-motion of probes in wind tunnel testing and output the averaged pressure data and Mach number automatically. Installed the cascade wind tunnel and blades and maintained the clean experimenting environment.
- Designed a test platform which enables 5-Axis-motion of the Probe by UG.

WORK AND VOLUNTEER EXPERIENCE

- Assistant officer of Survey Department in SJTU Student Union 2016
- Volunteer in Shepherd's Field Children's Village in Tianjin 2018

AWARDS

- Outstanding Student of Academic Records in SJTU (Top 10%) 2016
- Academic Excellence Scholarship of SJTU 2016
- 3rd Prize of National College Physics Experiment Competition 2016
- 1st Prize of Qian Xuesen Cup and Challenge Cup 2017
- Best Practical Ability Award in Honeywell Star Program (Honeywell Aerospace Innovation Competition) 2017
- 3rd Prize of Fei Bao Cup National Aerospace Knowledge Competition Final 2017
- ROLMEX Technology Aerospace Scholarships of SJTU (Top 5%) 2017
- Hongyi Scholarship of SJTU (Top 5%) 2018

SKILLS AND OTHERS

Programing:

- Julia, Fortran, C++, Visual Basic, Matlab.

Software:

- Tecplot, Pointwise, CATIA, X-Plane, AutoCAD, UG, Solidworks,

Experiments:

- fixed-wing RC aero-models, Pango 3D-printer, Laser cutter, PIV, Pixhawk autopilot, CC3D Flight Controller

Recreations:

- Rubik's Cube former SJTU record holder (2x2x2), with Rubik's Clock ranking 34 in China in 2016.

Certificate:

- National Occupational Qualification Certificate of Aero-engine Test Engineer (5th level)

PERSONAL WEBSITE

https://liyuxuan48.wixsite.com/liyuxuan