# Curriculum Vitae

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## I. Education

Bachelor's Degree: College of Aerospace Sciences and System, National University of Defense Technology, China (09/2012-07/2016)

- GPA: 3.67/4.0 (Rank Top 1 in College of Aerospace Science and Engineering)
- Top 30 students of NUDT Honors Program
- Recommendation exemption graduates

Summer School: University of Cambridge, UK (07/2014-08/2014)

Undergraduate Project: "Bio-inspiration from insect-flight aerodynamics", University of Glasgow, UK (03/2016-07/2014)

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## II. Current Research Interests

Object tracking, Object detection, 3D reconstruction

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## III. Awards

- 2016 "NUDT Outstanding Graduates", NUDT
- 2016 Undergraduate Thesis Evaluation A1 (Best), University of Glasgow, UK
- 2015 Golden Prize and Best Part Collection Award Nomination in The International Genetically Engineered Machine Competition (wiki), MIT, USA
- 2014 Golden Prize in The International Genetically Engineered Machine Competition (wiki), MIT, USA
- 2014 Summer School Report Evaluation A+ (Best), University of Cambridge, UK
- 2014 "Guanghua" Scholarship, Hunan, China
- 2014 Third Prize in Mathematical Contest in Modeling, China
- 2013 Third Prize in Mathematical Contest in Modeling, China

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## IV. Miscellaneous Experience

2013: *Mathematical Contest in Modelling*, Changsha, Hunan, China

Built two mathematical models to solve the traffic resource occupation and scheduling problems with two partners.

- Paper straps model based on length
- Multiple stage hourglass model based on volume

2014: *Mathematical Contest in Modelling*, Changsha, Hunan, China

Built models to control the soft landing of lunar exploration rover

- A trajectory model of lunar exploration rover
- A lunar craters recognition algorithm

2014: *Software Development for Viscoelastic Constitutive Model Parameter Determination of Solid Propellant,* NUDT, China

- Rationale and common steps of the parameters' transfer of materials

- Transferring Tension Relaxation Modulus and Poisson Rate to Shear Relaxation Modulus and Volume Relaxation Modulus
- Software (named VCMPD) development using C# and debugging
- **The Windows version *VCMPD 1.0* released and applied in my laboratory**

2014: *DDS signal generator and modem,* NUDT, China
- The Principle : discretization of continuous signal, discrete modulation and demodulation
- **Programming: realizing the in FPGA by *VERILOG***
- **Releasing the *Visible Signal Processing System***

2014: Science Summer School Term II and Interdisciplinary Summer School Term III, University of Cambridge, UK (07/2014-08/2014)
- **The non-coding genome (Evaluation: A+)**
- Codes, ciphers and secrets: an introduction to cryptography
- History of art IV. Painting Paris: French painting, 1860-1890
- The abnormal mind: an introduction to psychopathology

2014: The International Genetically Engineered Machine Competition (iGEM) (wiki), MIT, USA
We put forward novel biological computing method to solve single pair shortest path problem (SPP) by programming (building genetic circuits) *Escherichia colithe* and to and validated the feasibility.
- Two synthetically biological designs with five partners
- Experiments in the laboratory
- Wiki websites for the project
- Mathematical model for the cascade control pathways

2014: *Statistical simulation of queue in market*, Changsha, Hunan, China
- Arrival and service time modeling
- Random stimulation based on C++

2015: *The International Genetically Engineered Machine Competition* (iGEM) (*wiki*), MIT, USA
Using TALE to accelerate the multi-enzymatic reactions in prokaryotic cells.
- Experiments in the laboratory
- Wiki websites for the project
- Simulation of enzymatic reaction

2015: *Automatic Fingerprint Identification*, NUDT, China
- Image enhancement, segmentation, refinement and feature extraction
- Classification and retrieval in a database
- **Realize the automatic fingerprint identification algorithm by codes**

2016: Internship in China Aerodynamics Research and Development Center (CARDC), Mianyan, Sichuan province, China
- Taking part in various industrial wind tunnel testing

**2016: *Study of Fluid-Structure Interaction in Insect-like Flapping Flight using Unsteady Vortex Methods* (undergraduate thesis pdf), University of Glasgow, UK**
- Morphology & kinematics of insects
- Aerodynamics model:
  - Three Dimensional Unsteady Vortex Lattice Method (3D-UVLM)
  - Three Dimensional Vortex Fragmenton Method (3D-VFM)
- Structural dynamic model
- The fluid-structure interaction of flapping flight

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**V. Skills**

Traditional lab skills:

mechanics, mathematics, chemistry, electronics, automatic control, synthetic biology

molecular dynamics simulation

Computer lab skills:

- *C++, C#* programming and software development and maintaining
- *PYTHON*, *MATLAB*, *Haskell* for scientific calculation
- *VERILOG* for FPGA programming, *caffe, Theano* for deepleaining

Other skills:

basketball, guitar, painting, spatial imagination, farming and repairing household applications :)

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**VI. Language**

IELTS overall brand scores 7.0