Ziyi Liu

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Education

Shanghai Jiao Tong University, GPA: **84**/100 (B^+), Upper division: **87**/100 *9/2014–6/2019 (Expected)*

Candidate for B.S.E in Alternative Energy Science and Engineering, School of Mechanical Engineering

- ***Selected Core Courses:*** Photovoltaics Science (A), Wind Energy Principle and Technology (A), New Energy Systems and Their Applications (A^+), Energy Economics (A), Energy Chemistry (A), Fundamentals of Management (A), Calculus II (A^-), Probability and Statistics (A^-), etc.

Technical University of Denmark, Exchange Student *9/2017–6/2018*

- Acquired 55 ECTS under MSc programme in Sustainable Energy: 42003 Energy economics, markets and policies, 42002 Modelling and analysis of sustainable energy systems using operations research, 41416 Energy systems - analysis, design and optimization, 42372 Life cycle assessment of products and systems.

Research Work

Valuation of the System Advantages of Lower District Heating Temperatures *2/2018–6/2018*

Individual Project, DTU Mechnical Engineering *Supervisor: Prof. Brian Elmegaard*

- Analyzed the performance of various utility plants, distribution grids and domestic installations under different district heating (DH) temperature
- Developed an Excel-based model for *Sweco* to perform system valuation of DH covering financial, environmental, energy and socio-economic aspects. *Report*

An in-depth Analysis of Key Design Parameters of the Silicon Solar Cell *2/2017–1/2018*

Research Assistant, SJTU Energy Research Institute *Supervisor: Prof. Qingchun Yu*

- Simulated and obtained the optimal magnitudes of silicon solar cell key parameters with PC1D program
- Analyzed the carrier transmission mechanism behind and compared results with a commercial product so that verified the reliability of PC1D.
- ***Publication:*** *https://doi.org/10.1016/j.ijleo.2018.02.102*

The Study of Collaborative Design with Multi-disciplinary BIM Software *2/2016–3/2017*

Team Leader, SJTU BIM Research Center *Supervisor: Prof. Xueyuan Deng*

- Took charge of HVAC modelling of SJTU library and coordinated architecture and structure modelling
- Explored the workflow communication among multiple software based on BCF and IFC standards
- Won the First Prize out of 434 competitors in The 5th National Building Information Modeling Contest

Course Projects

Optimal Dispatch of Heat and Power Producer in the Day-ahead Market *11/2017–12/2017*

Group Leader *Proposed by Ea Energy Analyses*

- Achieved optimal energy dispatch of various utility plants, i.e. CHP, NG boiler, solar plant and heat storage, with GAMS under day-ahead electricity market to serve the heat load of a large industry. *Report*

Life Cycle Assessment of Decentralised Toilets *9/2017–12/2017*

Core Member *Proposed by NP Flint and supervised by DTU QSA*

- Quantified the environmental impact of decentralised toilets in comparison with flushing and composting toilets with SimaPro, thus identifying the hotspot stage to improve current design. *Report*

The Photovoltaic System Design for a 100% Solar-powered House *9/2016–1/2017*

International Competition *Supervised by Prof. Xiaoqiang Zhai*

- Designed and simulated the PV system applied in a double-decker, 100% solar-powered house with PVsyst and contributed to Team SJTU-UIUC for Solar Decathlon China 2018

Professional Experiences

BD/Analysis Intern, ***ENGIE China, Shanghai*** *9/2018–Present*

A multinational energy and services group leading low-carbon power generation and customer solutions

- Conducted the study on China biomass fuel market, especially solid biomass for heat & power at Global Energy Management (GEM) China business division
- Investigated market potential and risks of solid biomass from supply sustainability to operation safety, from competitive benchmarking to enabling policies

Research Assistant, ***Shenzhen Institute of Building Research, Shanghai*** *7/2018–11/2018*

The Shanghai Research&Innovation Center focuses on studying and consulting about sustainable cities and communities

- Worked for an national program cooperated with Berkeley Lab (US) to investigate city-level solutions for energy saving and carbon reduction and thereby propose policy recommendations for cities in China
- Specifically compared 8 recognized tools & 9 indicator systems and analyzed over 50 policies' attributes, delivered 100+ pages' research report

Student Assistant, ***Otago Polytechnic, New Zealand*** *8/2016*

A public education institute; Part of The Dunedin-Shanghai Sister City Education Scholarship Programme

- Optimized economic benefits of PV panels in new-built Auckland campus with Excel through different products and layouts and discussed the energy status and outlook in the Otago region.

Awards

Suzhou Education Scholarship (Top 3%) *10/2017*

Ranking 1/28 in the major, 9/441 in School of Mechanical Engineering during 2016-2017 academic year

"Merit Student" of Shanghai Jiao Tong University (Top 5%) *10/2017*

The Excellent Student Leader of Shanghai Jiao Tong University *5/2017*

Honorable Mention, American Interdisciplinary Contest in Modeling *4/2016*

Skills

Technical: Energy System Modeling, Feasibility Study, Life Cycle Assessment, Data Analysis, PV System Design

Software: LaTeX, GAMS, SimaPro, PVsyst, R, MS Office, Photoshop, Premiere, ect.

Language: English - IELTS 7.0 (L:7.5 R:8.5 W:6.5 S:6.0)

Miscellaneous

Cofounder, SJTU Sustainable Campus Initiative *(Promoting and practicing the SDGs)* *3/2018–Present*

Oikos Develop Prize - Social Entrepreneurship Competition at Copenhagen Business School *5/2018*

Chr. Hansen Sustainable Development Case Competition *4/2018*

President, SJTU International Communication Association (Over 60 members) *5/2016–6/2017*

International Master of Environmental Policy Summer Camp in Duke Kunshan University *8/2017*

Palliative Care Volunteer, Shanghai Longhua Hospital *9/2015–1/2016*

Hobbies: Photography, Travelling, Swimming, Badminton, Singing