

ZIYI LIU

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800 Dongchuan Rd., Shanghai 200240



EDUCATION

Shanghai Jiao Tong University GPA: 84/100 Ranking: 8/28 Sep. 2014 - Present

Candidate for Bachelor of Engineering degree in Alternative Energy Science and Engineering in June. 2019

Technical University of Denmark GPA: 8.2/12(B+) Exchange student Sep. 2017 - Jun. 2018

The study plan focuses on energy&environment, e.g. LCA, energy economics, energy system analysis.

RESEARCH&PROJECT WORK

Valuation of the System Advantages of Lower District Heating Temperatures Feb.- exp.Jun. 2018

Proposed by *Sweco* and supervised by *Prof. Brian Elmegaard*, the project analyzed the performance of various utility plants, distribution grids and domestic installations under different district heating (DH) temperature and developed an Excel-based model to perform a system valuation of DH covering financial, environmental, energy and socio-economic aspects.*Report*

Research on key design parameters of the silicon solar cell using PC1D Feb.2017-Jan. 2018

Publication: <https://doi.org/10.1016/j.ijleo.2018.02.102> Supervisor: *Prof. Qingchun Yu*

In this study, the optimal magnitudes of silicon solar cell key parameters were simulated using the PC1D program and the carrier transmission mechanism behind that was analyzed, which proves that PC1D can provide reliable reference values for solar cell design.

Optimal Dispatch of Heat and Power Producer in the Day-ahead Market Nov.-Dec. 2017

The project was proposed by *EA energy analysis* to achieve optimal energy dispatch of various utility plants, i.e. CHP, NG boiler, solar plant and heat storage with GAMS under day-ahead electricity market, which is to serve the heat load of a large industry.*Report*

Life Cycle Assessment of Decentralised Toilets in comparison with Flushing and Composting Toilets Sep.-Dec. 2017

The project was supervised by *NP Flint* and *DTU QSA* to quantify the environmental impact of different toilets with SimaPro, thus identifying the hotspot stage to improve current design. *Report*

Solar Decathlon China 2018

Mar. 2016-April. 2017

As a former Energy System Department Member of Team SJTU-UIUC, I designed and simulated the PV system for a double-decker, solar-powered permanent family house with PVsyst.

The study of collaborative design with multi-disciplinary BIM softwares Feb. 2016-Mar. 2017

The study was supervised by *Prof. Xueyuan Deng*. As the group leader, I took charge of HVAC Modeling of SJTU library and explored the workflow communication based on BCF and IFC standards among MagiCAD, ArchiCAD, Navisworks, Bimsight, etc.

SOCIAL EXPERIENCES

Shenzhen Institute of Building Research, Shanghai, China

Jul. 2018-present

As the Research Assistant, I contribute to an US-China bilateral cooperation program: The Research and Tool Development of Energy-saving and Low-carbon solutions.

Otago Polytechnic, Otago & Southland, New Zealand

Aug. 2016

As the assistant of Energy Consultant [Neville Auton](#), I participated in the energy management for the new campus. I was responsible for the PV panel array design and selection for Block G, using the Excel software to calculate and optimize the economic benefits. This internship was part of The Dunedin-Shanghai Sister City Education Scholarship Program.

The Social Investigation on New-type Urbanization and Rural Construction in China

Jun.-Jul. 2016

As a member of Central China Group, I promoted the philosophy of clean energy and fabricated buildings to the rural villages and investigated the photovoltaic industry. The program won the honor of National Top 10 Social Practice.

International Communication Association in SJTU

Nov. 2014 - Jun. 2017

I took charge of ICA for around three years (one-year presidency) to organize cross-cultural activities and promote mutual communication between foreign students and local students.

SKILLS

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

Software: Microsoft Office, Photoshop, Premiere, Latex, SimaPro, GAMS, PVsyst, ect.

Professional: Teamwork, Project management, Innovation

Language: English–IELTS 7.0 Mandarin–National Test 90.4/100

AWARDS

Suzhou Education Scholarship (Top 4%)

Oct. 2017

The Excellent Student of Shanghai Jiao Tong University

Oct. 2017

The Excellent League Cadre of Shanghai Jiao Tong University

May. 2017

First Prize-National Building Information Modeling Contest

Nov. 2016

The Dunedin-Shanghai Sister City Education Scholarship

Aug. 2016

Honored Mention-American Interdisciplinary Contest in Modeling

Apr. 2016

Third Prize-Odysey of the Mind China for College Students

Dec. 2015

ACTIVITIES

- [Oikos Develop Prize–Social entrepreneurship competition](#) in Copenhagen Business School May. 2018
- [Chr. Hansen](#) Sustainable Development Case Competition Apr. 2018
- Microeconomics&Statistics&Academic writing Summer Camp in [Duke Kunshan University](#) Aug. 2017
- Palliative care volunteer at Affiliated Shanghai Longhua Hospital Sep. 2015-Jan. 2016
- Shanghai International Marathon Volunteer Nov. 2016/5
- Voluntary service at Shanghai QIYIN Primary School for Deaf-Mutes Apr. 2015
- Shanghai Jiao Tong University Anniversary Volunteer Apr. 2017/6/5
- Work-study programme at Shanghai Jiao Tong University gymnasium Sep. 2014-Aug. 2015

HOBBIES

Photography, Travelling, Swimming, Badminton, Singing

Travel Blog: <http://www.mafengwo.cn/u/memory.html>

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教育经历

上海交通大学 机械与动力工程学院

2014.9 - 预计2019.6

新能源科学与工程专业 GPA: 84/100

Ranking: 8/28

丹麦技术大学 交换访学

2017.9 - 2018.6

学习方向专注于能源系统建模分析、能源经济与政策 GPA: 8.2/12(B+)

科研及项目经历

低温区域供热系统评估

2018.2-预计2018.6

- 本课题由Sweco工程咨询公司 和 丹麦技术大学(DTU) Brian Elmegaard 教授联合指导, 定量分析多种热生产技术、输热管道、用户侧装置在不同热载体温度下的性能变化, 同时基于Excel开发一款评估工具, 可模拟计算在相同用户热需求下, 应用高温、低温或超低温区域供热系统在经济、环境、能源、社会经济多方面的效益差别, 辅助制定合理的定价、补贴、税务等经济策略, 以促进向更低温的可持续性供热系统转型。Report

基于PC1D的硅太阳能电池关键设计参数研究

2017.2-2018.1

论文发表: <https://doi.org/10.1016/j.ijleo.2018.02.102> 导师: 余晴春教授

- 本研究应用PC1D模拟程序确定最优的硅太阳能电池设计参数量级, 并分析现象背后的载流子传输机制, 通过和一款商业化产品的对比, 证明了结果的准确性和PC1D 的可靠性。

一个小型社区的热、电生产单元产能最优规划

2017.11-2017.12

- 本项目由EA energy analysis EA analysis咨询公司提出, 旨在日前电力交易市场下, 对能源系统中多个生产单元建模分析, 包括热电联产、燃气、光伏、热储存单元, 在满足用户热需求下, 实现最优的生产规划即最大的经济效益。Report

一种新型分布型厕所的生命周期评估

2017.9-2017.12

- 本项目由NP Flint咨询公司和DTU量化可持续评估中心联合指导, 旨在运用SimaPro定量分析分布型、冲水式、堆肥式三种厕所全生命周期各阶段的环境影响, 从而为当前产品设计提供参考意见。Report

2018中国国际太阳能十项全能竞赛

2016.3-2017.4

- 竞赛内容为建造一栋完全由太阳能提供满足日常生活所需能源的双层住宅, 作为原上海交通大学UIUC队能源系统部部长, 主要负责光伏系统设计工作。Report

多种BIM专业软件协同设计研究

2016.2-2017.3

- 本课题由BIM研究中心邓雪原教授指导, 通过多种专业建模软件搭建上海交通大学图书馆信息楼BIM模型, 同时探索跨平台信息交流、协同设计。作为项目组长, 分管机电部分(暖通、给排水、电气)建模和IFC、BCF数据交换。PPT

实习及社会实践经历

深圳市建筑科学研究院上海研创中心,

2018.7-至今

- 作为研究助理, 参与到中美政府间科技合作项目-城市节能和低碳解决方案工具的研究与开发。

新西兰奥塔哥理工学院

2016.8

- 作为能源顾问Neville Auton的助理，参与到在建校区的能源管理工作，负责G区屋顶太阳能光伏板的阵列设计和产品选择，运用Excel计算和最优化经济效益，同时调研奥塔哥地区的能源体系及政策。

乡研—中国新型城镇化与美丽乡村建设市场调研

2016.7-2016.8

- 本课题旨在倡导与宣传装配式建筑、清洁能源利用、智能家居及能量管理等技术在发展循环经济、改善人居生活等方面的作用，探索装配式住宅在城镇化建设与美丽乡村建设中的实施可行性。荣获“全国大学生十佳暑期实践团队”称号。

上海交通大学国际交流协会

- 国际交流协会旨在组织跨文化活动，促进中外学生交流融合。在职期间，和团队创办三个微信公众号，累计粉丝至5000+。

会长

2016.5 - 2017.6

宣传中心部长

2014.11- 2016.5

上海交通大学学生职业生涯规划协会,优秀社员

2014.9- 2015.1

专业技能

能源系统建模，生命周期评估，数据分析，光伏系统设计，社交媒体运营

软件操作: Microsoft Office, Photoshop, Premiere, Latex, SimaPro, GAMS, PVsyst, ect.

语言水平: 雅思7.0, CET 6级, 普通话二级甲等

获得荣誉

苏州育才奖学金 (前4%) 2017.10

上海交通大学三好学生 2017.10

上海交通大学优秀团干部 2017.5

第五届“龙图杯”全国BIM (建筑信息模型) 大赛一等奖 2016.11

达尼丁-上海友好城市教育奖学金 2016.8

2016美国大学生数学建模竞赛二等奖 2016.4

第二届大学生头脑奥林匹克创新比赛三等奖 2015.12

活动经历

- Oikos Develop Prize 2018社会创业竞赛 2018.5

- Chr. Hansen可持续发展案例竞赛 2018.4

- 昆山杜克大学国际环境政策项目(iMEP)夏令营 2017.8

- 上海交通大学120周年校庆嘉宾讲解与摄影志愿者 2016.4

- 上海中医药大学附属龙华医院守望临终关怀志愿者 2015.9-2016.1

- 上海市启音学校 (聋哑教育机构) 志愿者 2015.4

- 上海国际马拉松志愿者 2015.11

- 上海交通大学综合体育馆勤工助学 2014.9-2015.8

兴趣爱好

摄影, 旅游, 游泳, 羽毛球, 唱歌

旅行博客: <http://www.mafengwo.cn/u/memory.html>