

RIMA CAO

(CAO YINING)

School of Environment

Tsinghua University, P.R. China

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EDUCATION

Tsinghua University

B.E. in Environmental Science and Engineering, Minor in Computer Science

Beijing, China

Sept 2015 – June 2019

- GPA: 3.69/4.00
- Summer intern at Carnegie Mellon University, Human Computer Interaction Institute

RESEARCH EXPERIENCE

Tsinghua University & Carnegie Mellon University

Pittsburgh, PA(Remote)

Director: Fanglin Chen, Ph.D. researcher, Carnegie Mellon University

Sept 2018 – Present

“MessageOnTap” (“Glue”): Connecting Conversations with Mobile Apps for Task Suggestions

- Craft identifying features to differentiate UI pages in screenshot traces
- Create screenshot clustering using DBSCAN algorithm
- Design crowd-facing front-end website to solicit screenshots of personal conversations

Tsinghua University, School of Environment

Beijing, China

Director: Deyi Hou, Associate Researcher, Tsinghua University

Oct 2018 – Present

Pollution Source and Soil Contamination Detection with Remote Sensing and Machine Learning

- Perform geo-data processing and calibration with Python
- Extract features for soil contamination with heavy metals based on hyperspectral data and regression analysis

Carnegie Mellon University, Human Computer Interaction Institute

Pittsburgh, PA

Director: Fanglin Chen, Ph.D. researcher, Carnegie Mellon University

June 2018 – Oct 2018

“MoTurk”: A personal data transaction platform under privacy protection mechanism

- Conducted qualitative coding of more than 100 academic papers to classify personal data uses on mobile phones
- Proposed a three-level hierarchical taxonomy to map out the software architecture of a personal data market
- Created an iterative design of high-fidelity prototypes for mobile app and web front end

Tsinghua University, School of Environment

Beijing, China

Director: Xuehua Liu, Associate Professor, Tsinghua University

Jan 2018 – Sept 2018

Bacterial communities in forest soils of different elevations: diversity, structure, and potential impacts on greenhouse gas emission

- Examined bacterial diversity and community structure and their impact on greenhouse gas emissions using pyrosequencing data
- Analyzed pyrosequencing data with R to perform micro-organic clustering and calculate greenhouse gas emissions
- Drew graph with R to show functional difference and bacteria distribution across different altitudes

Tsinghua University, School of Environment

Tsinghua, China

Director: Zongguo Wen, Professor

Sept 2017 – Dec 2017

Life Cycle Assessment of Photovoltaic Electricity Production in Beijing

- Collected data used for life cycle assessment from the Ecoinvent database and Statistical Yearbooks
- Estimated the current life cycle greenhouse gas emission of single-Si PV electricity produced
- Compared our results with other life cycle assessment metrics obtained through literature review

Tsinghua University, School of Environment

Tsinghua, China

Director: Haifeng Jia, Professor

Feb 2017– June 2017

Land Use Regression Modeling of PM2.5 Concentrations with Different Interpolation Methods

- Processed geo-data in ArcGIS using Python
- Generated dynamic geo-map to show the distribution of PM2.5 in Beijing, Hebei and Tianjin

PATENTS & PUBLICATIONS

- Yining Cao, (2013). An Intelligent Baby Carrier with Environmental Monitoring, Anti-theft and Automatic Braking Function. ZL 2013 10331617.7.
- Yining Cao, (2011). A New Bottle Warming and Heating Device. ZL 2011 2 0297639.2.

- Yining Cao, (2011). A Roll Curtain with Windproof Fixing Function. ZL 2011 2 -207640.5.
- Yining Cao, (2010). A Solar Powered Automatic Rotating Hanger. ZL 2010 2 0142649.4.
- Yining Cao, (2009). An Infusion Holder with Warming Function. ZL 2009 2 0202459.4.
- Yining Cao, (2007). A New U Disk with Telescope Structure. ZL 2007 2 0105434.3.
- Wanlong Sun, ZhouYuan Li, Yining Cao, Xuehua Liu. “Bacterial communities in forest soils of different elevations: diversity, structure, and potential impacts on greenhouse gas emission.” *Ecology* (2019, under review)

SELECTED AWARDS AND HONORS

First Prize, 2017 National Mathematical Modeling Contest	2017
Third Prize, Microsoft AI Hackathon Competition	2017
Third Prize, Beijing College Physics Competition	2016
Silver Prize, Summer Practice of Tsinghua University	2017, 2016
Outstanding Student Leader of Tsinghua University	2016
Veolia Special Scholarship	2017
Scholarship for Comprehensive Excellence (Top 10% in comprehensive assessment)	2018, 2017, 2016
Scholarship for Academic Excellence (Top 30% in academic)	2018, 2017, 2016
Scholarship for Social Practice Excellence	2017, 2016
Scholarship for Social Work Excellence	2018, 2016
The Tsinghua University Zheng Geru Scholarship	2018

INTERN EXPERIENCE

Netease / Front-end development	Beijing, China
Developing Intern	Mar 2018 – June 2018
<ul style="list-style-type: none"> • Assisted in “Image Template”, a poster generation framework, development using JavaScript and HTML • Performed front-end development of a background management system 	

Scientific American Journal	Beijing, China
Digital Marketing Intern	Feb 2017 – June 2017
<ul style="list-style-type: none"> • Composed marketing motion graphic video with After Effects 	

Department of Cultural & Creative Industries	Huzhou, China
Design Intern	January 2018
<ul style="list-style-type: none"> • Designed motion posters for the Spring Festival with Photoshop 	

ADDITIONAL INFORMATION

Extracurricular Activities

Leadership

- Hosted the 2nd Model Climate Change Conference in Tsinghua October 2017
- Held Green Talk Forum with TED in Tsinghua November 2017
- President of Rural International Student Exchange (RISE) Association May 2017 – Jan 2018

Academic Interests

- Organized a team with 23 students to build water filters to remove Arsenic from water supply in Liangjiabu, Shanxi Province July 2017
 - Work covered by *China Youth News* and China Science Net

Design & Art

- Drew a science picture album: *What's Energy Net?* to introduce the principles of Energy Interconnection August 2016

Athletic

- Three-year Tsinghua University Aerobics team champion 2016 & 2017 & 2018

Computer and Language Skills

- Proficient in Photoshop, After Effects, Sketch, JavaScript, Python
- Mandarin (Native), English