

# Andey Ng

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## RESEARCH INTERESTS

- Innovation Systems, Digital Divide, Design Thinking, Emerging Technologies, HCI, Skill Gap, Learning Sciences, Mental Models, Digitization, Special-Education, Rural Development, Cultural Values, Sinology, Socioeconomic Factors of Modernization

## EDUCATION

Carnegie Mellon University

Pittsburgh, PA

- **B.S. in Information Systems**  
**M.S. in Engineering and Public Policy**
- Concentrations: Machine Learning, Human-Computer Interaction

Peking University

Beijing, China

- **M.A. in China Studies, Sociology** of Yenching Academy
- Research: The **socioeconomic impacts of digitization** in China's rural development in the skilling and re-skilling of workers.
- Received a fully funded masters program with an acceptance rate of 2.7% amongst an interdisciplinary cohort of students.

## PROFESSIONAL EXPERIENCE

**HP. Inc**

Palo Alto, CA

AI Experience Product Manager

Aug 2024 – Present

- Designing transformative experiences by implementing AI and emerging technologies in HP products
- Working closely with diverse stakeholders across the product lifecycle to deliver breakthrough innovation

**Learn2Learn**

Remote

Freelance Education Consultant

Nov 2022 – Jun 2024

- Create custom-tailored reflection curriculum to guide students to find feasible avenues to identify and realize their ambitions
- Develop and instruct interactive language courses for primary school and high school students in navigating bi-cultural settings

**Microsoft**

Redmond, WA

Product Manager Intern

Jun 2022 – Sep 2022

- Created a dynamic dashboard that automatically pulls OKRs from Azure DevOps to enhance team visibility, collaboration in setting, and achieve performance goals, and optimize task productivity
- Led stakeholder interviews to streamline success metrics, developing strategies for disciplined tracking and goal progression

**Salesforce**

Bellevue, WA

Technical Program Manager Intern

Jun 2021 – Aug 2021

- Roadmapped integration of Natural Language Processing pipelines to identify social engineering risks for call centers agents
- Developed security recommendation playbooks to mitigate threats and ethical implications in voice recognition and AI

**HP. Inc**

Houston, TX

Product Manager Intern

Jan 2021 – May 2021

- Determined user profiles and pain points to ideate on Chromebooks through implementing emerging technologies ([Demo](#))
- Performed ethnographic research through interviews, UX techniques, and affinity diagrams on GenZ users ([Link to work](#))
- Analyzed new verticals for Education Chromebooks to further HP's philanthropy for neurodiversity programs

**Yahoo Inc**

Sunnyvale, CA

Software Engineering Intern

May 2020 – Sep 2020

- Published paper on developing machine learning pipelines in site reliability engineering tools to classify cross-metric statistics
- Modeled reduction of incidents by 380% by automating debugging methods that identify failures in the email application stack

**Unum Insurance Company**

Portland, ME

Cybersecurity Intern

May 2019 – Aug 2019

- Deployed honeypot Deceptors on Symantec software that generate alerts when hackers penetrate the on-premise network
- Used Python and Splunk's Machine Learning Tool Kit to blacklist threats and automate Incident Report Handling Team's alerts

**Introduction to Information Systems**

Pittsburgh, PA

Head Teaching Assistant

Jan 2020 – May 2022

- Mentor students to guide their understanding in the potentials of Information Systems by leading recitations and office hours
- Enhance curriculum with relevant industry skills such as SQL, HTML, CSS, Javascript, and agile product management tools

**Butterjoint Restaurant**

Pittsburgh, PA

### *Dining Room Waitress*

*Jan 2022 – May 2022*

- Provided high-level hospitality and cleanliness services to customers to ensure the guest feels important and welcome
- Applied customer-centric suggestive sales approach to guide guests through custom-tailored culinary storytelling practices

## **RESEARCH EXPERIENCE**

### **Carnegie Mellon University's Engineering and Public Policy**

*Pittsburgh, PA*

*Semiconductor Shortage Research Assistant, ([Link to work](#))*

*Jan 2022 – May 2022*

- Created a bot with Python and Selenium to web scrape and retrieve semiconductor datasheets from NXP's dynamic website
- Analyzed insights to identify semiconductor design commonalities among categories (i.e. automotive vs industrial applications) to provide recommendations for manufacturers to collaborate and reduce redundancy in manufacturing chips

### **CMU Center for International Relations and Politics**

*Pittsburgh, PA*

*Data Science Research Assistant, ([Link to work](#))*

*Aug 2020 – Jan 2021*

- Conducted Natural Language Processing in Python on presidential speeches to identify senators' sentiments on sensitive topics of War over time to predict future behaviors and voter approval during turbulent national crisis
- Data parsed and web scraped articles on online databases to indicate latent variables of international relationships

### **Carnegie Mellon University's Learning Sciences Lab**

*Pittsburgh, PA*

*User Experience Research Assistant, ([Link to work](#))*

*Jan 2020 – Aug 2020*

- Designed user tests to enhance trust of cognitive tutor systems between AI, teachers, and students for peer collaboration
- Prototyped dashboards to vet biases in stakeholders such as teachers in designing fair algorithms and ethical protocols

### **Carnegie Mellon University's Future Interface Group Lab**

*Pittsburgh, PA*

*Computer Vision Research Assistant, ([Link to work](#))*

*Jan 2019 – May 2019*

- Applied Computer Vision and Machine Learning algorithms to help PhD students test and develop emerging technologies
- Used OpenCV on Virtual Reality sets to user test Simultaneous Location and Mapping and Stereo Depth Vision research

## **INVITED TALKS**

### **World Green Science Day Conference**

*Beijing, China*

**Keynote Speaker**, "Behavioral Affordances and Interface Nudges for Eco-Friendly User Actions"

*Dec 2023*

- Spoke to international audience on how to engrain environmental values into users' decision making in e-commerce apps

### **World Agrifood Innovation Conference — Youth Forum, ([Link to Speech](#))**

*Beijing, China*

**Keynote Speaker**, "Growing Smarter Together: Skilling the Next Generation of Agri-Innovators"

*Nov 2023*

- Spoke to World Food Prize winners and 15 million viewers on how agri-innovation stems from focusing on farmers' pain points

### **Beijing International Innovation Youth Forum, ([Link to Speech](#))**

*Beijing, China*

**Keynote Closing Speaker**, "Humanizing Innovation with AI's User-centric Design Process"

*May 2023*

- Spoke among China's Secretariat of Talent Strategy and Ministry of Education on HCI and design thinking in innovation

### **China Daily Talk Show, ([Link to Speech](#))**

*Beijing, China*

**Discussion Panelist**, "China XYZ: Artificial Intelligence"

*Jun 2023*

- Spoke among panel of 5 experts from multiple fields across multiple generations dive into the hot topic of generative AI

### **Carnegie Mellon University Information Systems Graduation, ([Link to Speech](#))**

*Pittsburgh, PA*

**Graduation Speaker**, "These Little Moments"

*May 2022*

- Spoke to 1500 graduates, faculty, and families to reflect on the relationships, experiences, and education forged at CMU

### **Carnegie Mellon University Freshman Orientation, ([Link to Speech](#))**

*Pittsburgh, PA*

**Keynote Speaker**, "In This Moment"

*Aug 2019*

- Spoke to 3000 first-year students to inspire them to put empathy and leadership as the center of our collegiate journey

## **LEADERSHIP**

### **Serendipity STEM**

*Fremont, CA*

*Non-Profit Founder and Instructor, [www.serendipitystem.org](http://www.serendipitystem.org)*

*Aug 2016 – May 2022*

- Created a platform to teach general-education students how to teach special-education students STEM and programming
- Founded robotics programs at 4 local educational development companies that empower students
- Developed drag-and-drop Lego robotics curriculum tailored for special education students to and exercise motor skills

### **Center of Shared Prosperity**

*Pittsburgh, PA*

*Project Manager Intern ([Link to Work](#))*

*Sep 2021 – May 2022*

- Developed metric instruments to scope frameworks and design marketing goals to incentivize more student engagements
- Assessed gaps in campus offerings to streamline partnerships between university and the Greater Pittsburgh Community

### **Project Rwanda Service Organization**

*Pittsburgh, PA*

### *President*

*Sep 2018 – May 2022*

- Organized service initiative to execute a 2-week technology literacy workshop for Rwandan teachers in collaboration with Carnegie Mellon's Rwanda and Qatar campuses to create a sustainable, ethical impact on the local Rwandan Community
- Developed a curriculum to forge deeper discussions among members regarding respectful, service-learning practices

### **Residential Education**

*Pittsburgh, PA*

### *Resident Advisor*

*Aug 2019 – May 2020*

- Organized 2 weekly programming events (70+ events per year) for residential hall that open a dialogue on cultural competency, knowledge sharing, intellectual curiosity to subconsciously create empathy and solidarity among residents
- Fostered supportive, conducive, and cohesive collegial environment to create meaningful connections

### **Women in IS Mentorship**

*Pittsburgh, PA*

### *Founding Member and Lead Mentor*

*Jan 2019 – May 2022*

- Mentor young women in the Information Systems Dept. diverse backgrounds, disciplines, and interests based on their needs
- Coach mentees to feel professionally empowered through interview prep sessions and resume review workshops

### **East Coast Asian American Student Union Conference**

*Pittsburgh, PA*

### *Marketing Conference Team Member*

*Aug 2019 – May 2020*

- Organized conference to educate and empower 3000+ students regarding Asian American Pacific Islander (AAPI) issues
- Collaborated with conference team to design workshops for participants to raise awareness and drive advocacy solutions

## **PUBLICATIONS**

Klotz Jr., L., Burwell, R., **Ng, A.** (2019). Spartacus: Splunk/Spark Automated Root Cause Analysis; Using Splunk and Spark to automate the root cause analysis of user-visible temporary access errors. Yahoo, Inc., Sunnyvale, CA.

## **FIELD WORK**

### **Taobao Villages; Shandong, China**

*May 2023*

- Lead a team to interview rural entrepreneurs on the impacts of digitization and e-commerce development to combat the Digital Divide to explore the skilling and re-skilling of rural workers that have enabled social mobility
- Performed semi-structured interviews to discover latent factors that contribute to the transfer of tacit knowledge to skills

### **WWOOF Farming Trip; Minnesota and Colorado, USA**

*May 2021*

- Self-lead an immersive farming trip to explore the Digital Divide and quality of life and values of rural American communities
- Sowed vegetable garden through cultural practices on Native American Farm, and milked goats for 6 hours/day on goat farm

### **CMU Hillel Cultural Perspectives Trip; Israel and Palestine**

*Jan 2020*

- Explored geopolitical conflicted regions in Israel and Palestine for firsthand experience to break stereotypes of the Middle East
- Interviewed authority figures and locals to gain ethnographic views of the different narratives of the history, land, and people

### **Project Rwanda; Kigali, Rwanda**

*Jun 2019*

- Organized service initiative to execute a 2-week technology literacy workshop for Rwandan teachers in collaboration with Carnegie Mellon's Rwanda and Qatar campuses to create a sustainable, ethical impact on the local Rwandan Community

### **CMU Outreach 360 Service Trip; Dominican Republic**

*Mar 2019*

- Volunteered at local primary schools in Monte Cristi to instruct English class across language and cultural differences
- Gained a firsthand experience of the different educational opportunities and pedagogical methods in Latin America

## **AWARDS AND HONORS**

### **Yenching Dean's Research Grant**

*Jan 2023*

- ¥5000 grant to lead a team to execute research in China, focused on latent ramifications of high-tech on familial structures

### **Yenching Academy Scholarship**

*Sep 2022*

- Fully funded masters program with an acceptance rate of 2.7% amongst interdisciplinary international cohort

### **Hyundai Women in STEM Scholarship**

*Sep 2021*

- \$10,000 scholarship selected for merits as a STEM leader to promote digital democratization and societal computing

### **Boeing Information Systems Scholarship**

*Dec 2020*

- \$5,000 scholarship selected merits for interdisciplinary initiatives in STEM and campus civic citizenship

### **LAM Research Scholarship**

*Jun 2018*

- \$10,000 scholarship selected on core values for outstanding academic records, teamwork, and community involvement

## **TECHNICAL SKILLS**

Programming Languages: Python, C, Java, Javascript, HTML, CSS, Linux, Unix, SQL, Ruby

Frameworks: Rails, Jekyll, Node.js, React

Software Systems: CAD, Splunk, Git, Spark, Hadoop, Pandas, Figma, Miro, Jira

Skills: Full-stack Development, Databases, Data Science, Product Prototyping, UI Design, UX Research, A/B Testing

## LANGUAGES

**English:** Native, **Cantonese:** Fluent, **Mandarin:** Fluent, **Spanish:** Limited-working Proficiency

## INTERESTS AND HOBBIES

Flameworking glass, furniture making (woodworking and welding), playing mahjong and board games, baking, playing piano