

# Andey Ng

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## RESEARCH INTERESTS

Through mixed methods of quantitative and qualitative ethnographic interviews, I intend for my research to utilize data to redefine what is valued by a community that's been stratified by the introduction of high-tech. My research interest lies in examining the following:

1. The socioeconomic impacts of migrant workers in urban spaces among a) the upper-middle class of high-tech workers b) the working class
2. The Digital Divide among rural and urban spaces in China and the US
3. The clash and convergence of individualistic and Confucianist beliefs seen through the rise of modernization
4. The factors caused technological innovation has stagnated and catalyzed throughout China's imperial history and contemporary society
5. The values of belongingness, community, and cultural identity

## EDUCATION

### Peking University

Beijing, China

- M.A. in China Studies in Yenching Academy
- Concentration: Law and Society

Jun 2024

### Carnegie Mellon University

Pittsburgh, PA

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

Dec 2021

May 2022

## PROFESSIONAL EXPERIENCE

### Microsoft

Redmond, WA

#### Program Manager Intern

Jun 2022 – Sep 2022

- Aggregated data among PMs to identify insights from pain points in their methods of inconsistent metrics for measuring OKR's
- Iterated on dashboard and visualizations to create analytics to identify patterns to optimize OKR progress for quarter planning

### 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

## 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](#))**

Jan 2019 – May 2019/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

## 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.

## LEADERSHIP

**Serendipity STEM**

Fremont, CA

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

Aug 2016 – Present

- Developed drag-and-drop Lego robotics curriculum tailored for special education students to and exercise motor skills
- Founded robotics programs at 4 local educational development companies that empower students through STEM education

**Center of Shared Prosperity**

Pittsburgh, PA

Project Manager Intern

Sep 2021 – Present

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

**Project Rwanda Service Organization**

Pittsburgh, PA

President

Sep 2018 – Present

- Organizing 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
- Developing 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

**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

**Women in IS Mentorship**

Pittsburgh, PA

Founding Member and Lead Mentor

Jan 2019 – Present

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

## EXPERIENTIAL LEARNING

**WWOOF Farming Trip, Minnesota and Colorado**

May 2021

- Self-lead an immersive farming trip to explore the Digital Divide and quality of life in rural areas with limited access to high-tech
- 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

**CMU Outreach 360 Service Trip, Dominican Republic**

Mar 2019

- Volunteered with CMU 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 Academy Scholarship           | <i>Sep 2022</i> |
| Dietrich College Dean's List           | <i>May 2021</i> |
| Hyundai Women in STEM Scholarship      | <i>Sep 2021</i> |
| Boeing Information Systems Scholarship | <i>Dec 2020</i> |
| LAM Research Scholarship               | <i>Jun 2018</i> |

## 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

## LANGUAGES

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

## INTERESTS AND HOBBIES

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