

Anthony Poon

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I am a mixed-methods researcher, senior software engineer, human-centered designer, and educator with over 20 years of experience delivering robust technology solutions in challenging environments. I blend research methods such as participatory co-design, ethnography, surveys, and statistical analysis, to understand user needs and evaluate the impact of technology with stakeholders. I've led complex international and interdisciplinary programs in public health data systems, high-volume e-commerce payment management, digital exam preparation aids, and other domains with unique regulatory, security, and infrastructural requirements. I specialize in combining strong cross-domain communication, software development praxis, mixed-methods research, and diverse perspectives into an effective end-to-end approach. I'm motivated to co-create with communities to strengthen and prepare them for the future!

Professional History

Senior Technical Advisor, I-TECH, School of Public Health, University of Washington 2022 – 2025

Spearheaded development of a national electronic disease surveillance system in Ukraine and designed data-sharing, analytics, and governance frameworks as a solution architect and program manager. Created and taught a multi-year professional fellowship program (IDASH) focusing on interoperability, data governance, data science, project management, and human-centered design. Developed toolkits and evaluations for multiple public health informatics programs.

- Reduced disease reporting time, increased the scope and types of disease surveillance, and enabled Ukraine to more readily detect and respond to public health threats.
- Mentored 30+ fellows, improving staff technical capacity and leading to the creation of new informatics and data analysis tools in 10+ countries in Eastern Europe, Central Asia, and South America.
- Improved epidemiologists' ability to collaborate across borders in South America, veterinarians' awareness of antimicrobial resistance in farm animals in Washington State, and interoperability of national health information systems in Peru and Zanzibar.

Graduate Researcher, Information Science, Cornell University 2016 – 2022

Co-designed a virtual peer support platform for home care workers in NYC and evaluated its impact via interviews, scenario-based design, and ethnographic methods. Developed and implemented a SNS and WhatsApp exam preparation tool for secondary students in Cameroon, collaborating with local educators and evaluating its effectiveness through statistical analysis and focus groups.

- Improved connectedness and empowerment among isolated home care workers.
- Increased student engagement and collaborative studying in Cameroon. Helped students identify their knowledge strengths and weaknesses.

Software Development Engineer II, Payments Platform, Amazon.com 2009 – 2016

Developed and maintained high-volume payments software services, securely processing millions of transactions per hour with dozens of global financial partners. Implemented a web widget service that standardized the customer checkout and payment method management experience across websites.

- Enabled expansion to multiple international markets (e.g.: India, Brazil, Spain, etc.), introduction of new payment methods (e.g.: electronic bank transfers, mobile payment, etc.), and reduced payment processing costs (e.g.: debit card processing).
- Facilitated seamless partner integration and API interoperability without compromising sensitive customer data through a pluggable enterprise system bus.
- Created internal tools, including data dashboards, operations management tools, integration testing mocking services, and data serialization libraries to enhance operational efficiency.
- Mentored junior developers and promoted best practices in software design and development.

Education

- Doctor of Philosophy in Information Science**, Cornell University, New York 2022
- Committee: Nicola Dell (chair, Human-Computer Interaction), Sarah Giroux (Demographic Change), Parfait Eloundou-Enyegue (Sustainable Development), and Aditya Vashistha (Human-Centered AI).
- Bachelor of Science in Computer Engineering**, University of Washington, Seattle 2009
- Bachelor of Arts in Sociology**, University of Washington, Seattle 2009

Skills

Program Leadership and Mentorship

- Multi-stakeholder product development, strategic planning, requirements gathering, and governance.
- Cross-team, cross-domain, and cross-functional collaboration and coordination.
- Peer and team mentorship, code review, and teamwork.

Project Management

- Large-scale research project management in both domestic and international contexts.
- Project planning, continuous improvement, Agile development methodologies, Kanban, and Scrum.
- Software development team leadership and management.

Software Development and Architecture

- Java, Python, PHP, Scala, Perl, C, C++, JavaScript, and SQL.
- Cloud computing, distributed systems, scalable software, web services, and networking.
- AWS, EC2, Elastic Beanstalk, Lambda, S3, DynamoDB, RDS, SNS, SQS, and CloudWatch.
- Front-end web development, full stack, and mobile app development.
- API design, interoperability, integration, standards design and implementation.
- Linux command line, bash, awk, grep, find, and others.
- Electronic health records, health information systems, workflow systems, and enterprise system buses.

Human-Centered Design and Participatory Design

- Co-design and participatory design methods.
- Scenario-based design and rapid collaborative prototyping.
- User experience research, usability testing, and product development.

Qualitative and Quantitative Research Methods

- Multi-disciplinary and mixed-methods researcher.
- Experimental design, research protocols, quasi-experimental research, sampling, and time-series data.
- Survey design, focus groups, semi-structured interviews, and ethnographic methods.
- Thematic, grounded, and discourse analysis.

Data Science and Statistical Analysis

- Comparative analysis, correlations, descriptive statistics, power analysis, and data cleaning.
- Scientific Python, Jupyter Notebook, R, and IBM SPSS.

Graphical and 3D Computer-Aided Design

- Adobe Photoshop, Illustrator, InDesign, Autodesk Sketchbook, and Trimble SketchUp.

Languages

- Fluency in Cantonese.

Publications

- Designing for Peer-Led Critical Pedagogies in Computer-Mediated Support Groups for Home Care Workers** 2023
Anthony Poon, Lourdes Guerrero, Julia Loughman, Matthew Luebke, Ann Lee, Madeline Sterling, Nicola Dell in *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*, Hamburg, Germany, April 2023.
- Computer-Mediated Sharing Circles for Intersectional Peer Support with Home Care Workers** 2023
Anthony Poon, Matthew Luebke, Julia Loughman, Ann Lee, Lourdes Guerrero, Madeline Sterling, Nicola Dell in *Proceedings of the ACM on Human-Computer Interaction (CSCW)*, Minneapolis, MN, April 2023.
Awarded a *Recognition for Contribution to Diversity & Inclusion*.
- Development and Piloting of a Community-Partnered Heart Failure Training Course for Home Health Care Workers** 2022
Madeline Sterling, Jacklyn Cho, Peggy Leung, Ariel Silva, Joanna Ringel, Faith Wiggins, Natasha Herring, Alena Powell, Oscar Toro, Ann Lee, Julia Loughman, Michael Obodai, Anthony Poon, Parag Goyal, Lisa Kern, Monika Safford in *Circulation: Cardiovascular Quality and Outcomes*, published online, November 2022.
- Elevating Strengths and Capacities: The Different Shades of Assets-Based Design in HCI** 2022
Marisol Wong-Villacres, Sheena Erete, Aakash Gautam, Azra Ismail, Neha Kumar, Lucy Pei, Wendy Roldan, Veronica Ahumada-Newhart, Karla Badillo-Urquiola, J. Maya Hernandez, Anthony Poon, Pedro Reynolds-Cuéllar, Vivian Genaro Motti in *Interactions*, published online, August 2022.
- Computer-Mediated Peer Support Needs of Home Care Workers: Emotional Labor & the Politics of Professionalism** 2021
Anthony Poon, Vaidehi Hussain, Julia Loughman, Ariel C. Avgar, Madeline Sterling, Nicola Dell in *Proceedings of the ACM on Human-Computer Interaction (CSCW)*, published online, October 2021.
Awarded a *Recognition for Contribution to Diversity & Inclusion*.
- Experiences of Home Health Care Workers in New York City During the Coronavirus Disease 2019 Pandemic** 2020
Madeline R. Sterling, Emily Tseng, Anthony Poon, Jacklyn Cho, Ariel C. Avgar, Lisa M. Kern, Claire K. Ankuda, Nicola Dell in *The Journal of the American Medical Association (JAMA) Internal Medicine*, published online, August 2020.
- Baccalauréat Practice Tests in Cameroon: The Impact of SMS-Based Exam Preparation** 2020
Anthony Poon, Sarah Giroux, Parfait Eloundou-Enyegue, François Guimbretière, Nicola Dell in *Information and Communication Technologies and Development (ICTD)*, Guayaquil, Ecuador, June 2020.
- Practitioners and ICTD: Communities of Practice Theory in Technology Interventionism** 2020
Anthony Poon in *ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS)*, Guayaquil, Ecuador, June 2020.
- Engaging High School Students in Cameroon with Exam Practice Quizzes via SMS and WhatsApp** 2019
Anthony Poon, Sarah Giroux, Parfait Eloundou-Enyegue, François Guimbretière, Nicola Dell in *CHI Conference on Human Factors in Computing Systems Proceedings (CHI)*, Glasgow, UK, May 2019.

References

- Katya Wilson**, Senior Research Scientist *weisiting@gmail.com*; +1-206-618-7417
- Department of Global Health, University of Washington
 - I worked closely with Katya to develop syndromic surveillance procedures in Ukraine and design protocols for research and evaluation of multiple projects.

Peter Rabinowitz, Professor

peterr7@uw.edu; +1-206-616-0598

- Departments of Environmental & Occupational Health Sciences, Family Medicine, Global Health, University of Washington
 - Director of Center for One Health Research
 - Co-Director of Alliance for Pandemic Preparedness
- Peter was a principal investigator of multiple grants that I worked on, including the Ukraine data modernization and the Washington State antimicrobial resistance projects. Peter and I had frequent discussions to guide the scope, feasibility, and direction of information technology aspects of these programs.

Denise Giles, Team Lead

dgg4@cdc.gov; +1-205-521-2468

- Health Scientist Informatics – Data Science & Informatics Team, Global Surveillance, Laboratory, & Data Systems Branch, Division of Global Health Protection, US Centers for Disease Control and Prevention
- Denise was a key stakeholder in the Ukraine data modernization project and strategic planning toolkit for health information systems interoperability.

Awards and Honors

Recognition for Contribution to Diversity & Inclusion , CSCW 2023	2023
Recognition for Contribution to Diversity & Inclusion , CSCW 2021	2022
Digital Life Initiative Doctoral Fellowship , Digital Life Initiative, Cornell Tech	2020 – 2021
Engaged Graduate Student Grant , Engaged Cornell, Cornell University	2018 – 2019
Outstanding Service Award , Information Science, Cornell University	2016 – 2017
Information Science Fellowship , Information Science, Cornell University	2016 – 2017

Teaching and Mentorship

Informatics and Data Science for Health (IDASH) Fellowship 2023 – 2025

Instructor, International Training and Education Center for Health, University of Washington

- Developed studio and case-based curriculum to encourage collaborative and interdisciplinary learning of key concepts in human-centered design, interoperability, project management, and data science.
- Created goals and collaborated with other instructors to create a consistent and holistic program with a supportive learning environment.
- Used effective teaching and classroom management techniques to deliver an active and engaging learning experience to 20+ professional students from diverse disciplinary and national backgrounds.

PhD Student Mentor 2017 – 2019

Student Mentor, Information Science, Cornell University

- Met regularly with students during their first year of PhD and beyond to provide timely peer support.

INFO 4400: Advanced Human-Computer Interaction Design Spring 2019

Head Teaching Assistant, Information Science, Cornell University

- Supported studio activities in classroom and managed teaching assistants.

INFO 4900: Independent Study Spring 2019

Supervisor, Information Science, Cornell University

- Designed activities, held regular meetings, and supervised undergraduate students.

INFO 4340: User Experience & Software Development Studio Fall 2018

Head Teaching Assistant, Information Science, Cornell University

- Provided constructive feedback on assignment design, held office hours, and managed teaching assistants.

- CS 1110: Introduction to Computing Using Python** *Spring 2018*
 Teaching Assistant, Information Science, Cornell University
 – Designed new assignment around the Uno card game to provide students with hands-on experience developing interfaces, extensibility, and unit testing.
- DSOC 1101: Introduction to Sociology** *Fall 2017*
 Teaching Assistant, Information Science, Cornell University
 – Managed independent sections with 20+ students and led semi-structured discussions to encourage critical thinking, discussions, and active participation.
 – Graded essays and other class assignments.
- INFO 5325: Values in Information Technology and Digital Media** *Fall 2016*
 Teaching Assistant, Information Science, Cornell Tech
- New Employee Mentor** *2011 – 2015*
 Employee Mentor, Payments Integration Team, Payments Platform, Amazon.com

Academic Service

- Admissions Committee Member**, Information Science Graduate Student Association *2020 – 2021*
 – Created first Information Science PhD application pre-reading program.
 – Wrote department-wide applicant evaluation criteria and guidelines.
 – Designed resources for prospective students and reviewers.
- Co-President**, PhD Students at Cornell Tech *2020*
 – Advocated for PhD student needs during the COVID-19 pandemic.
 – Worked towards more equitable use of student activity fees for Tech-based students.
- Cornell Tech Liaison**, Information Science Graduate Student Association *2019 – 2020*
 – First Cornell Tech Liaison for ISGSA, a position created to better represent the needs of Tech-based students to the Information Science department.
- Social Chair**, Information Science Graduate Student Association *2018 – 2019*
- Social Chair**, PhD Students at Cornell Tech *2016 – 2017*
 – First Social Chair for PACT. Created first reoccurring social events at Tech campus.

Selected Press

- Can Peer Mentors Help Address the Direct Care Workforce Shortage?** *February 2022*
 Angelina Del Rio Drake in *PHI Newsroom*.
<https://www.phinational.org/can-peer-mentors-help-address-the-direct-care-workforce-shortage/>
- Designing Technology to Meet the Peer Support Needs of Home Care Workers** *October 2021*
 Anthony Poon in *ACM CSCW* via Medium.
<https://medium.com/acm-cscw/designing-technology-to-meet-the-peer-support-needs-of-home-care-workers-4143e5b94cd7>
- Academia's Community Impact Gap** *October 2021*
 Anthony Poon in *DLI Critical Reflections*.
<https://www.dli.tech.cornell.edu/post/academia-s-community-impact-gap>
- 'I'm beyond terrified': For Home Care Workers, COVID-19 Is a Health Crisis and Economic One** *September 2020*
 Shefali Luthra in *USA Today*. <https://www.usatoday.com/story/news/politics/2020/09/14/home-care-workers-covid-19-health-crisis-and-economic-one/5729328002/>

EduTech Surprise! SMS Beats WhatsApp for Teen Test Prep

April 2019

Wayan Vota in *ICTworks*. <https://www.ictworks.org/edutech-whatsapp-test-prep/>

Presentations

Conference Presentation: Computer-Mediated Peer Support Needs of Home Care Workers: Emotional Labor & the Politics of Professionalism

October 2021

ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW), held virtually.

Invited Talk: Thinking Backwards from Improvement in Information Technology Action Research

March 2021

Digital Life Seminar Series, Digital Life Initiative, Cornell Tech, New York City, NY, USA.

Conference Presentation: Cultivating Africa's "Dividend Generation" to Achieve the Sustainable Development Goals: Lesson from the PICHNET Approach

September 2020

Sarah Giroux, Parfait Eloundou-Enyegue, [Anthony Poon](#), Adèle Mirabelle Ngock, David Ngam, Claude Mbarga in *International Conference on Sustainable Development (ICSD)*, UN Sustainable Development Solutions Network, New York City, NY, USA.

Conference Poster: Technology for Communities of Practice: Designing for Cameroonian Secondary School Students

September 2020

International Conference on Sustainable Development (ICSD), UN Sustainable Development Solutions Network, New York City, NY, USA.

Conference Presentation: Baccalauréat Practice Tests in Cameroon

June 2020

Information and Communication Technologies and Development (ICTD), ESPOL University, Guayaquil, Ecuador.

Conference Presentation: Practitioners and ICTD

June 2020

ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS), ESPOL University, Guayaquil, Ecuador.

Conference Presentation: Engaging High School Students in Cameroon with Exam Practice Quizzes via SMS and WhatsApp

May 2019

CHI Conference on Human Factors in Computing Systems Proceedings (CHI), Glasgow, UK.

Guest Lecture: Technology for Development

November 2018

IARD 1100: Perspectives on International Agriculture and Rural Development, Cornell University, Ithaca, NY, USA.