Anthony Poon

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I am a senior designer, software engineer, and researcher with over 18 years of experience of creating robust technology solutions and evaluating their impact with communities of professional users and underserved stakeholders. I have a strong background in program leadership and collaborating across domains in both international and domestic contexts. I've worked extensively in public health, education, labor, finance, and e-commerce and navigated their unique challenges of regulatory regimes, high security environments, specialized user needs, and unreliable power and internet infrastructure. My work combines software development praxis, strong communication skills, mixed research methods, and diverse perspectives to build for the future and strengthen communities.

Professional History

Senior Technical Advisor, I-TECH, School of Public Health, University of Washington   *2022 – 2025*
- Led development of a national electronic disease surveillance system in Ukraine in collaboration with multiple national and international stakeholders. Designed data-sharing, analytics, and governance frameworks that 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.
- Taught and created curriculum for a multi-year fellowship program with 10+ countries in Eastern Europe, Central Asia, and South America, focusing on interoperability, data governance, data science, project management, human-centered design, and software development. Mentored 30+ fellows resulting in improved staff technical capacity and creation of new informatics and data analysis tools.
- Evaluated training programs, dashboards, and other tools for rural epidemiologists in cross-border towns in South America, large animal veterinarians in Washington State, and public health specialists in Zanzibar. Used mixed-methods assessment to measure program efficacy, user satisfaction, and impact on data-driven decision making.
- Built toolkits for national health information systems mapping and strategic planning. Developed recommendations for Peru to improve interoperability of national health information systems.

Graduate Researcher, Information Science, Cornell University   *2016 – 2022*
- Co-designed, created, and evaluated a virtual peer support platform with home care workers in New York City, leveraging participatory design and ethnographic research. Resulted in more community connectedness and empowerment among an isolated workforce.
- Developed and deployed a SMS and WhatsApp-based exam preparation tool for secondary school students in Cameroon in collaboration with local educators and NGOs and evaluated it with statistical and focus group methods. The study aid increased student engagement, encouraged collaborative studying, and helped students identify their knowledge strengths and weaknesses.

Software Development Engineer II, Payments Platform, Amazon.com   *2009 – 2016*
- Engineered and maintained high-volume payments software services that securely processed millions of transactions per hour with dozens of global digital payment platforms partners. This 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).
- Architected an enterprise system bus that provided interoperability between multiple partner APIs using a shared data model. Designed a pluggable architecture for this platform so that independent teams could integrate with new partners without direct access to sensitive customer data.
- Implemented a web widget service that standardized customer checkout and payment method management across platforms. This unified the user experience and code base across Amazon websites and apps.

- Built and implemented internal tools, including data dashboards, operations management tools, integration testing mocking services, data serialization libraries, and others.
- Mentored junior developers, encouraged design review processes, software development best practices, and supported the needs of peers.

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, Kaban, 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, <u>University of Washington</u>
      o Director of Center for One Health Research
      o 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   *dqg4@cdc.gov; +1-205-521-2468*
  – Health Scientist Informatics – Data Science & Informatics Team, Global Surveillance, Laboratory, & Data Systems Branch, Division of Global Health Protection, <u>US Centers for Disease Control and Prevention</u>
  – 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

PhD Student Mentor   *2017 – 2019*
  – Information Science, Cornell University

INFO 4400: Advanced Human-Computer Interaction Design   *Spring 2019*
  – Head Teaching Assistant, Information Science, Cornell University

INFO 4900: Independent Study   *Spring 2019*
  – Supervisor, Information Science, Cornell University

INFO 4340: User Experience & Software Development Studio   *Fall 2018*
  – Head Teaching Assistant, Information Science, Cornell University

CS 1110: Introduction to Computing Using Python   *Spring 2018*
  – Teaching Assistant, Information Science, Cornell University

DSOC 1101: Introduction to Sociology   *Fall 2017*
  – Teaching Assistant, Information Science, Cornell University

INFO 5325: Values in Information Technology and Digital Media   *Fall 2016*
  – Teaching Assistant, Information Science, Cornell Tech

New Employee Mentor   *2011 – 2015*
  – 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.
- – Revamped criteria and guidelines for evaluating applicants.
- – 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, <u>Anthony Poon</u>, 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.