Nancy (Xin Ru) Wang

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EDUCATION

UNIVERSITY OF WASHINGTON
PhD in Computer Science and Engineering
Dec 2018 | Seattle, WA

UNIVERSITY OF BRITISH COLUMBIA
BSc (Honours) in Computer Science
May 2014 | Vancouver, BC
Dean's Honour List, all semesters

SKILLS

LANGUAGES
Primary: Python
Working: JavaScript • TypeScript • SQL
Familiar: Java • C++ • Matlab

MACHINE LEARNING
PyTorch • computer vision • vision-language models • LLM agents and tool use • judge-model evaluation • speech and real-time audio

SYSTEMS
FastAPI • React • PostgreSQL • WebSockets • LiveKit • Docker • Kubernetes • Google Cloud • Cloudflare • Stripe

HUMAN LANGUAGES
English and Mandarin (native) • German (B1)

LINKS
LinkedIn: nancy-wang-phd
Scholar: Nancy Xin Ru Wang

EXPERIENCE

CO-FOUNDER AND CTO | FluenTea
May 2025 – Present, started while on leave from Amazon | Berlin, DE

- Technical co-founder; built and ran the entire product, from concept to launch in three months.
- Designed the AI coach's tool set so she can act for students and teachers, cut live voice-call latency, and built an integrated video classroom that transcribes, translates and gives feedback after every call.
- Ran production on Kubernetes: test gate and live-schema check before each deploy, CI on seeded fixtures, contract tests for route authentication and security headers, property-based timezone tests.
- Rebuilt the dashboard from user interviews, now run by the AI coach (monthly active users up 247% April to August 2026). Built the age gate, parental consent, GDPR deletion and attendance a university required before enrolling minors.
- Launched Sep 2025; more than 16,000 registered users from 136 countries; three university clients, the first in Mexico with 500 students.

APPLIED SCIENTIST, COMPUTER VISION | Amazon
Apr 2021 – Nov 2026 | Berlin, DE

- What is in a creator's photo or video (2023 to 2024). Benchmarked zero-shot and low-shot CLIP against a supervised baseline and designed the crowd annotation over 270 interests and 30,000 videos. The model launched into Amazon's interest mapping and feeds two recommenders. Lead author of the internal paper, an oral and best-paper shortlist.
- Generative video and 3D (2025). Investigated frame selection for structure-from-motion and Gaussian splatting from 3D object captures, and made product videos with diffusion and image-editing models for video transitions and product swaps.
- Product sizes from images (2021 to 2023). Proposed treating it as text visual question answering, built the golden dataset with a five-person annotation team across 130 product types, productionized the model to backfill more than ten million products, and led the public dataset release. Door Desk award; D-Extract at WACV 2023.
- Visual similarity for Alexa Shop the Look (2022 to 2023). Embedding retrieval with diversity filters.
- Also at Amazon. Supervised four interns and interviewed for the team (17 loops in one year), organized the Berlin ML Workshop 2023 with 180 attendees, won a GenAI hackathon, and received the Amazon Berlin Champion of Diversity and Inclusion award.

RESEARCH STAFF MEMBER | IBM Research Almaden
Mar 2019 – Mar 2021 | San Jose, CA

- Deep learning and computer vision for enterprise document understanding in the Scalable Knowledge Intelligence department: algorithms to find and read tables, and active-learning tools that let users build models for their own documents.
- Technical lead and main developer of GTE, an end-to-end table extraction system (WACV 2021), and of TableLab, the labeling interface built on it, from concept to launch.
- Lead organizer of SemEval 2021 Task 9 (SEM-TAB-FACTS) on fact verification against tables. Co-author of CORD-19 and of D2S (NAACL 2021). Tutorials on table extraction at ICDM 2019 and VLDB 2020.

TEACHING

Teaching assistant at UW and UBC:

Artificial Intelligence
Algorithms and Data Structures
Models of Computation
Computer Vision
Machine Learning (graduate)

SERVICE

Lead organizer, SemEval 2021 Task 9

Tutorials on table extraction, ICDM 2019 and VLDB 2020

EXTRA-CURRICULAR

2016–2017: Founder and President, UW High Performance Computing Club, Cloud Chapter

2010–2011: Elected Science Councillor, UBC Alma Mater Society

INTERESTS

Brains and computers, any cognitive system. Languages and living inside other cultures. Role-playing and strategy games (Dragon Age, XCOM).

EXPERIENCE, CONTINUED

GRADUATE RESEARCH ASSISTANT | University of Washington

Sep 2014 – Dec 2018 | Seattle, WA

- Sensor-fusing deep learning models that decode and predict human behavior from hundreds of hours of simultaneous video, audio and electrocorticography recordings (AAAI 2018, oral). Advised by Bingni Brunton and Rajesh Rao, with Jeff Ojemann and Ali Farhadi.
- Founded the project to automate the annotation of naturalistic neuroscience data; it became a multi-year effort funded by NSF and DARPA, and parts of the dataset were released.

PHD INTERNSHIPS | Zillow · Rakuten Institute of Technology

Jun – Sep 2018, Seattle, WA · Mar – Jun 2016, Tokyo, Japan

Computer vision for Zillow housing products; unsupervised user modeling for search ranking and page design at Rakuten.

SELECTED PUBLICATIONS

Pushpendu Ghosh, Nancy Wang, Promod Yenigalla. D-Extract: Extracting dimensional attributes from product images. *WACV 2023*.

Edward Sun, Yufang Hou, Dakuo Wang, Yunfeng Zhang, Nancy X. R. Wang. D2S: Document-to-slide generation via query-based text summarization. *NAACL 2021*.

Xinyi Zheng, Douglas Burdick, Lucian Popa, Xu Zhong, Nancy Xin Ru Wang. Global Table Extractor (GTE): A framework for joint table identification and cell structure recognition using visual context. *WACV 2021*.

Nancy X. R. Wang, Diwakar Mahajan, Marina Danilevsky, Sara Rosenthal. SemEval-2021 Task 9: Fact verification and evidence finding for tabular data in scientific documents (SEM-TAB-FACTS). *SemEval 2021*.

Nancy Xin Ru Wang, Ali Farhadi, Rajesh Rao, Bingni Brunton. AJILE movement prediction: Multimodal deep learning for natural human neural recordings and video. *AAAI 2018*, oral, 25% acceptance.

Nancy Xin Ru Wang, Jared D. Olson, Jeffrey G. Ojemann, Rajesh P. N. Rao, Bingni W. Brunton. Unsupervised decoding of long-term, naturalistic human neural recordings with automated video and audio annotations. *Frontiers in Human Neuroscience*, 2016.

AWARDS

2016–2019	Doctoral stipend	NSERC Postgraduate Scholarship (the Alexander Graham Bell CGS-D was declined in its favour)
2016–2017	$20,000 Azure credits	Microsoft Azure Research Award
2015–2017	Full tuition and stipend	Washington Research Foundation Innovation Graduate Fellow in Neuroengineering and Data Science
2014	Full tuition and stipend	Wilma Bradley Endowed Fellowship
2014	Research grant	NSERC Undergraduate Student Research Award
2011	Research scholarship	DAAD RISE, Germany
2009–2013	Full undergraduate scholarship	Hugh M. Brock Award