Nora Hernández

Full name: Nora Patricia Hernández López
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Research interests

AI (in) education; Culturally relevant & Cross-cultural Education; Learning sciences; STEAM education; Learning analytics; Bayesian Methods

Education

2021 – 2026 **The University of Hong Kong** – Hong Kong
Ph.D., Education
Supervisor: Dr. Xiao Hu; Co-supervisors: Dr. Samuel K. W. Chu, Dr. Gary K. W. Wong

2018 – 2020 **Tecnologico de Monterrey** – Mexico
M.Sc., Computer Science
Supervisor: Dr. Jorge Adolfo Ramírez Uresti
GPA: 97/100.

Universidad del Valle de Mexico – Mexico
M.Ed., Innovation and Educational Technology
GPA: 9.5/10.

2011 – 2016 **Tecnologico de Monterrey** – Mexico
B.Eng., Mechatronics
GPA: 92/100.

Teaching Qualifications

2022 **Certificate in Teaching and Learning in Higher Education** – The University of Hong Kong
Focused on: course design, active learning, and assessment for learning.

Teaching Experience

2023 – 2024 **Teaching Assistant** – The University of Hong Kong
Course: Information system analysis and development (Master's level)
Led special sessions on database design; provided individual consultations; graded and provided feedback on students' assignments.

2021 **Private Online Tutor (Computer Science & Mathematics)**
Provided one-to-one tutoring to students aged 8–14, breaking down complex concepts into intuitive explanations; tailored instruction to individual learning styles, following international curriculum. Maintained regular feedback sessions with parents.

2016 – 2020 **Curriculum Designer** – Aerobot Planet, Mexico

Co-created a summer-camp and extra-curricular curriculum for robotics and coding courses for 8–14 year olds, incorporating project-based learning and formative assessment.

Research Experience

2022 – present **Research Consultant** – Impact Analytics

• Supported various youth education projects through impact evaluation research, building comprehensive MEL frameworks including survey design, data collection, and stakeholder feedback sessions.

• Used qualitative and quantitative learning data to measure program effectiveness, learner progress, and SROI.

• Synthesised findings into reports for clients and created materials to disseminate project outcomes to the wider community of stakeholders.

• Facilitated regular review meetings with project partners, ensuring alignment on objectives and timelines.

2021 – 2026 **Doctoral Researcher** – The University of Hong Kong

• Designed and implemented culturally relevant AI literacy curricula for 300+ secondary students in Mexico and Hong Kong.

• Led mixed-methods evaluation using Bayesian ordinal regression, sequence analysis, and semi-structured interviews.

• Published findings in peer-reviewed conferences (AIED, ICALT, LAK).

2020 **Master's Thesis Researcher** – Tecnologico de Monterrey

• Built a Contextual Hybrid Bayesian Recommender System using Bayesian networks and expert knowledge elicitation.

• Conducted a usability study (N=97) demonstrating improved practical usefulness over state-of-the-art baselines.

Selected honours and scholarships

2022 ALiTE Fellows Programme for Doctoral Students 2022-23 (The University of Hong Kong, Hong Kong)

2021 Hong Kong Ph.D. Fellowship 2021/22 (Research Grants Council, Hong Kong)

2021 HKU Presidential Ph.D. Scholarship 2021/22 (The University of Hong Kong, Hong Kong)

2018 National Post-graduate Scholarship (CONACyT, Mexico)

2018, 2011 Academic Excellence Scholarship (Tecnologico de Monterrey, Mexico)

Journal Articles

2026 **Collaborating with classmates and AI to create music pieces: A topic modeling and sentiment analysis approach**
Under review.
Ng, D.T.K., **Hernández López, N. P.**, Hu, X.

2025 **Interaction patterns in AI Education: A comparison of two contexts**
Under review.
Hernández López, N. P., Hu, X., Ng, D.T.K.

2025 **Computing Education Meets the Arts: Insights from a Systematic Review**
Under review.
Hernández López, N. P., & Hu, X.

2026 **Sequence Analysis for Understanding Constructionist Learning in AI Education**
In *2026 IEEE International Conference on Advanced Learning Technologies (ICALT)*. **Hernández López, N. P.**, & Hu, X. *In Press.*
Full list available upon request.

Peer-reviewed Conference Proceedings

2026 **Sequence Analysis for Understanding Constructionist Learning in AI Education**
In *2026 IEEE International Conference on Advanced Learning Technologies (ICALT)*. **Hernández López, N. P.**, & Hu, X. *In Press.*

2025 **Insights from Culturally Relevant AI Education Programme for Secondary School Students**
In *26th International Conference on Artificial Intelligence in Education (AIED25)*. **Hernández López, N. P.**, & Hu, X., Ng, D.T.K. DOI: 10.1007/978-3-031-98465-5_35

2025 **WekiMusic: Machine Learning Music Activities to Foster Constructionist AI Education**
In *2025 IEEE International Conference on Advanced Learning Technologies (ICALT)*. **Hernández López, N. P.**, & Hu, X. DOI: 10.1109/ICALT64023.2025.00035

Full list available upon request.

Book Chapters

2024 **Understanding Learning in Culturally Relevant Artificial Intelligence Education**
Hernández López, N.P.. In Dimitriadis, Y., Cerezo, R., Balderas, A., Martínez-Monés, Spikol, D. (Eds.), *Doctoral Consortium of the Learning Analytics Summer Institute Europe 2024 (LASI Europe 2024 DC)*. CEUR Workshop Proceedings. https://ceur-ws.org/Vol-3738/

2019 **Razonamiento estadístico**

Estrada Real, A. & **Hernández López, N.P.** Razonamiento estadístico. (2019). In Francisco Cantú & Rocío Aldeco (Eds.), *Razonamiento Computacional* (pp.63-102). Academia Mexicana de Computación, A.C. https://amexcomp.mx/media/publicaciones/conocimiento-y-razon-comp.pdf

Invited Talks

2024 **Brown Bag Seminar: AI and its implications for Education** – The University of Hong Kong

Unit of Social Contexts and Policies for Education

2023 **Panel de discusión: El papel de la mujer en la ciencia** – Hong Kong

Consulate General of Mexico in Hong Kong

Conference Presentations

2022 **IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE)** – Hong Kong

Second Runner Up: TALE 2022 Interdisciplinary Postgraduate Student Forum

The Hong Kong Polytechnic University

2022 **Forum for Social Experiments for AI in Education** – China

Presentation: Computing Education meets the Arts: Preliminary results from a systematic review

Graduate School of Education, Peking University

2020 **Congreso de Investigación y Desarrollo (CIDTEC)** – Mexico

Poster presentation: A Context Hybrid Bayesian Model for Movie Recommendations

Tecnologico de Monterrey

Grants & Fellowships

2021 – 2026 Hong Kong PhD Fellowship (HKPF) – Research Grants Council, Hong Kong

Competitive university-wide fellowship, awarded to top 0.5% of applicants

2021 HKU Presidential PhD Scholarship – The University of Hong Kong

2018 National Postgraduate Scholarship (CONACyT) – Mexico

Full funding for Master's studies

2018, 2011 Academic Excellence Scholarship – Tecnologico de Monterrey, Mexico

Professional Development

2024 Doctoral Consortium – AIED24 (Recife, Brazil) & LASI Europe (Jeréz de la Frontera, Spain)

2023 Learning Analytics Summer Institute (LASI) – Singapore (Erik Duval Scholar)

Bayesian Statistics for Social and Health Scientists in R and Python – Online (Institute for Statistical and Data Science)

2022 Learning Analytics Summer Institute (LASI) – Canada (online) (Erik Duval Scholar)

Technical Skills

Learning & Development: Curriculum and Assessment Design, LMS workflows, Microsoft Office (Advanced Word, Excel, PowerPoint).

Domain Expertise: AI Literacy, AI/ML Ethics, Learning Analytics, Educational Data Mining, Sequence Process Mining, STEAM Education.

Languages & Tools: Python (Pandas, NumPy, Scikit-learn), R (tidyverse, brms, lme4, Shiny), Git, LaTeX.

Statistical Methods: Bayesian Inference (MCMC, Hierarchical Modeling), A/B Testing, Hypothesis Testing, Regression Analysis, Time Series, Causal Inference.

Languages: Spanish (native), English (fluent), German (basic), Mandarin (basic).

References

Available upon request.