

SAE H. HAN, MPH

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EDUCATION

- PhD, Health and Biomedical Informatics** (GPA: 4.0) **Expected December 2026**
Northwestern University, Feinberg School of Medicine, Health Sciences Integrated Program
Advisor: Dr. Nicholas Soulakis | Proposed Dissertation: *Large Language Models for Privacy-Preserving Thematic Analysis in Community-Engaged Research: A Systematic Performance Evaluation*
- MPH, Health Promotion Research & Practice** (GPA: 4.0) **May 2018**
Columbia University, Mailman School of Public Health
Advisor: Dr. Eric Schrimshaw | Thesis: *Hydrochlorothiazide Exposure and Risk of Non-Melanoma Skin Cancer in Primary Care Patients: A Case-Control Study*
- BS, Human Biology, Health, and Society** (GPA: 3.99 | Graduated with Distinction) **January 2015**
Cornell University, College of Human Ecology
Advisor: Dr. Anthony Burrow

SKILLS SUMMARY

- **Technical:** Python, LLM Workflow Design & Evaluation, Data Analysis, Ontology Development, Metadata Standardization
- **Research & Methods:** Human-in-the-Loop System Design, HCI & Usability Evaluation, Mixed-Methods Research
- **Domain & Strategy:** Clinical & Health Informatics, Responsible AI, Data Harmonization, Cross-Stakeholder Coordination

WORK EXPERIENCE

- Senior Staff Scientist** **11/23 – Present**
Loyola University Chicago, Center for Health Outcomes and Informatics Research (CHOIR)
 - Design and evaluate responsible, privacy-preserving LLM workflows for qualitative research in community health settings.
 - Apply human-centered AI and HCI methods to incorporate end-user feedback, usability metrics, and trust considerations into AI-assisted analysis tools.
 - Conduct empirical evaluations of LLM-assisted thematic analysis to understand performance in real-world, resource-constrained environments.
- Business Development Consultant** [*External through Han Research LLC*] **06/25 – 10/25**
Digital Infuzion, LLC
 - Served as proposed Biomedical/Scientific Research Information Specialist on a \$35M federal contract bid supporting a large-scale NIH biomedical terminology and ontology program.
 - Authored technical proposal sections, white papers, and federal response materials addressing terminology lifecycle support, LLM-augmented ontology curation, and biomedical informatics capabilities.
- Data Analytics Research Fellow** **08/24 – 05/25**
Digital Infuzion, LLC
 - Designed and evaluated an LLM-assisted ontology pipeline to examine how AI can extract and structure domain knowledge from 400+ clinical trial recruitment plans into a standardized terminology hierarchy.
 - Developed metadata standardization methods across 500+ clinical trials to enable interoperable clinical research analysis.
 - Served as primary contributor of translational research materials communicating AI methods and capabilities to federal scientific stakeholders.
- Scientific Program Manager** [*Contractor through Kelly Government Solutions*] **04/23 – 07/24**
Office of Clinical Research | National Institute on Aging (NIA) | National Institutes of Health (NIH)
 - Served as NIA-side program manager for the successful award of two institute-wide contracts totaling ~\$80M for clinical research operations and support services, overseeing requirements development and stakeholder coordination.
 - Evaluated implementation and developed strategic plans for tracking and analyzing clinical trial metrics within NIA's Clinical Research Operations & Management System (CROMS), an institute-wide clinical research data system.
 - Developed grantee-facing communications on NIH reporting requirements for clinical trial data, resulting in improved records management for NIA-funded trials.
 - Coordinated multi-stakeholder workshops and partnered with NIA leadership to advance portfolio harmonization and strategic clinical research initiatives.
- Program Analyst/Clinical Protocol Coordinator** [*Contractor through Kelly Government Solutions*] **08/19 – 10/21**
Division of Extramural Activities | National Institute on Aging (NIA) | National Institutes of Health (NIH)
 - Conducted formative research, including a content analysis of 500+ NIA-funded clinical trial recruitment plans and environmental scan of NIH institutes' data management practices—findings that directly informed NIA leadership's decision to invest in CROMS.
 - Served as NIA-side project manager and liaison to the contracting company for the initial \$23.3M CROMS contract to design, develop, maintain, and operate a unified clinical research system for NIA.
 - Analyzed demographic and portfolio data to inform protocol development, equitable recruitment, and leadership resource allocation decisions.

- Developed health communication materials and integrated clinical, operational, and social science perspectives to evaluate trial implementation approaches.

Health Communications Fellow

08/18 – 08/19

Cancer Therapy Evaluation Program (CTEP) | National Cancer Institute (NCI) | National Institutes of Health (NIH)

- Evaluated Experimental Therapeutics Clinical Trial Network (ETCTN) sites to identify accrual and site activation barriers.
- Designed program evaluation strategies integrating behavioral, operational, and data-driven insights.

PEER-REVIEWED JOURNAL ARTICLES

- Mitchell AK [et al., including **Han SH**]. *Analysis of Eligibility Criteria in Alzheimer's and Related Dementia Clinical Trials*. Scientific Reports. 2024.
- Tran S [et al., including **Han SH**]. *Using Machine Learning to Predict Hospital Disposition with Geriatric Emergency Department Innovation Intervention*. Annals of Emergency Medicine. 2021.
- Massett HA [et al., including **Han SH**]. *Facilitators, Challenges, and Messaging Strategies for Hispanic/Latino Populations Participating in Alzheimer's Disease and Related Dementias in Clinical Research: A Literature Review*. Journal of Alzheimer's Disease. 2021.
- McGowan M [et al., including **Han SH**]. *Raising awareness of Alzheimer's Clinical Trials: Development of Messages Tailored to African American Caregivers and Individuals at Risk*. Alzheimer's & Dementia. 2020.
- Massett HA [et al., including **Han SH**]. *Raising Awareness of Clinical Trials in Dementia: A National Survey Testing Concept Designs Tailored to African American Caregivers and Individuals at Risk*. Alzheimer's & Dementia. 2020.
- **Han SH**, Wolfe CM, Angnardo L, et al. *Hydrochlorothiazide Use as a Predictor of Increased Lifetime Cumulative Squamous Cell Carcinoma in a High-Risk Mohs Population: A Cross-Sectional Study*. Dermatologic Surgery. 2019.
- Massett HA [et al., including **Han SH**]. *Transforming the Early Drug Development Paradigm at the National Cancer Institute: The Formation of NCI's Experimental Therapeutics Clinical Trials Network (ETCTN)*. Clinical Cancer Research. 2019.

MANUSCRIPTS UNDER REVIEW OR IN PREPARATION

- **Han SH** & Soulakakis ND. *Evaluation of Google Search Trends for COVID-19 Vaccination Administration Efforts within an Urban Department of Public Health*. Journal of Public Health. [Under review].
- **Han SH**, Hensing C, Federico E, et al. *Feasibility of Small-Scale Large Language Models for Thematic Analysis in Resource-Constrained Educational Settings*. [Manuscript in preparation].
- **Han SH**, Mitchell AK, Ehrenkranz R, et al. *Planned Enrollment and Recruitment Strategies in Alzheimer's and Related Dementia Clinical Trials*. [Manuscript in preparation].

CONFERENCE ABSTRACTS & PRESENTATIONS

- **Han SH**, Liu, Z, Balta, S, et al. *Large Language Model (LLM)-Driven Ontology Development: A Case Study in Clinical Trial Recruitment*. 2025. [Oral presentation at re:CONNECT Conference 2025].
- **Han SH**, Mitchell AK, Massett HA. *Planned Enrollment and Recruitment Strategies in NIA-Funded Alzheimer's Disease and Related Dementia (AD/ADRD) Clinical Trials*. [Oral presentation at NIA's Scientific Winter Retreat 2024].
- **Han SH** & Soulakakis ND. *Evaluation of Google Search Trends for COVID-19 Vaccination Administration Efforts within a Public Health Department*. [Oral presentation at American Medical Informatics Association (AMIA) Informatics Summit 2022].
- Tran S [et al., including **Han SH**]. *Using Machine Learning to Predict Hospital Disposition with Geriatric Emergency Department Innovation Intervention*. [Abstract at AMIA Informatics Summit 2023].
- **Han SH**, Massett HA, Mitchell AK, et al. *Analysis of Recruitment Planning for Under-Represented Participants in NIA-Funded Alzheimer's Disease and Alzheimer's Disease Related Dementias in Clinical Trials*. [Oral presentation at Alzheimer's Association International Conference (AAIC) 2021].
- Mitchell AK [et al., including **Han SH**]. *Analysis of Exclusion Criteria in NIA-Funded Alzheimer's Disease and Alzheimer's Disease-Related Dementias Clinical Trials*. [Oral presentation at AAIC 2021].
- **Han SH**. *Photosensitizing Properties and Action Spectrum of Hydrochlorothiazide*. [Oral presentation at SUCOM Dermatology Grand Rounds Presentation: International Conference on Photosensitizing Medications' Role in the Incidence of Cutaneous Squamous Cell Carcinoma 2017].

HONORS AND AWARDS

- **Kelly Government Solutions Distinguished Achievement Award** (2021)
- **2020 National Institute on Aging Director's Award** (2020)
- **National Cancer Institute's Health Communications Fellowship** (2018)
- **Florida Skin Cancer Foundation's Young Researcher Award** (2016)
- **Kappa Omicron Nu Honor Society | Cornell University** (2014)