

Brian Romanowski

NLP research scientist / research engineer

MOST RELEVANT EXPERIENCE

Nuance / Microsoft — Principal NLP Research Scientist

April 2012 - Present

Researched applications of large language models (LLM) like GPT4 to radiology report summarization (2023). Scored first place on the n2c2 2022 Social Determinants of Health (SDoH) challenge with T5-Large (2022). Led research and engineering efforts on an internal seq2seq-based tool that extracts structured information from clinical note text (2019).

Championed, designed, and built Nuance's first ~\$750,000/year cloud compute grid to facilitate GPU-hungry research (2018). Managed a team of medical coding experts and created tooling to help build a pre-data, rule-based medical classification system(2014). Researched improvements to a large healthcare question-answering system (2012).

Michigan State University — Research Assistant

January 2011 - December 2011

Researched improvements to speech recognition using eye gaze and incremental semantic analysis. Built a robot for situated language processing research that integrated computer vision, speech recognition, constraint-based reasoning, and dialogue management. Presented fifteen 80-minute lectures on first-order logic, Prolog, probability, and supervised learning for the undergraduate "Introduction to Artificial Intelligence" course.

21st Century Technologies — Senior Research Scientist

September 2006 - May 2009

Built proof-of-concept applications at this small Austin, TX company for government projects that included: semantic search of online chat dialogue, pitch detection for the identification of non-language speech sounds, and entity resolution in social networks. Wrote a proposal that won a \$750,000 Department of Defense Small Business Innovation Research (SBIR) grant.

PAPERS

Romanowski B, Ben Abacha A, Fan Y. [Extracting social determinants of health from clinical note text with classification and sequence-to-sequence approaches](#). *Journal of the American Medical Informatics Association* 2023.

EDUCATION

Michigan State University — Master's in Computer Science

September 2009 - December 2011

University of Illinois — Bachelor's in Electrical Engineering

August 1997 - December 2002

SKILLS

Everyday — GPT4, OpenAI, Python, Bash, Linux, Slurm, git, vim, remote work

Recent — PyTorch, fairseq, SQL, SQLite, Azure

Rusty / Hobby — Java, Postgres, Tensorflow, Rust, SaltStack, Terraform, Android, HTML, CSS, Javascript

Ancient — Assembly (x86, TI DSP), Matlab, C, Prolog, RDF/SPARQL, OWL

OTHER EXPERIENCE

Research Intern at Honda Research Institute, Japan (Summer 2010)

Teaching Assistant for Engineering Design 100 (Fall, Spring, Fall 2010)

Web Accessibility Developer (Spring, Summer 2006)

Information Technology Volunteer for United States Peace Corps (November 2003 - October 2005)

Control Research Assistant (Summer 2002)

Firmware Engineer Intern at Hewlett-Packard (Summer, Fall 2000)

PUBLIC CONTENT

<https://github.com/romanows>
<https://gitlab.com/romanows>

- [n2c2-SDOH](#)
- [Advent of Code 2019 in Rust](#)
- [QuickSelect in Java](#) and [Blog post](#)
- [Linear Addition from the Log Domain \(Blog post\)](#)