Nathan Kim

(+1)-650-505-4069 | nathangk@stanford.edu | linkedin.com/in/nathangk | nathankim7.github.io

EDUCATION

Stanford University   **Stanford, CA**
BS, Computer Science   *Expected June 2024*
GPA: 3.9
Key Coursework: NLP w. Deep Learning (Best Project), Machine Learning (Best Project), Deep Generative Models

RESEARCH

Holistic Evaluation of Language Models   **To Appear, Transactions on Machine Learning Research (TMLR)**
Authored with Stanford CRFM
This paper introduces HELM, a **living benchmark** for foundation models designed to capture the full space of LLM use cases in a principled manner. **Individually**, I implement the International Corpus of English (ICE) as an evaluation on language modelling fairness across English dialects of varying prestige, and argue for its importance in an assessment of bias expressed by LLMs. I also discuss the results of our suite of linguistic knowledge evaluations more generally.

GLARE: Infilling Language Models for Textual Adversarial Attacks   **Eval4NLP @ AACL–IJCNLP 2022**
Nathan Kim*, Ryan Chi*, Patrick Liu, Zander Lack, Ethan Chi
Textual adversarial examples can expose serious security vulnerabilities in NLP models by illustrating where small perturbations in input texts can drastically alter their predictions. We find that the GPT-2 adapted to perform non-causal infilling (Donahue et al. 2020) outperforms existing adversarial example generation methods in fluency, semantic preservation, and attack success rates.

WORK EXPERIENCE

Portalform (YCombinator W23)   **January 2023—March 2023**
Founding Engineer
- Building a next-generation software layer for SaaS to automate 3rd-party client data ingestion. For enterprise developers first.
- Designed/serviced a reader service to sync client databases with Amazon + Shopify. Built on Prisma, PostgreSQL & Express.

Canal   **June 2022—September 2022**
Frontend Engineering Intern
- Contributed **18.5% of frontend code** written at Canal during internship period, including **redesigned invite interface**
- **Initiated/designed major refactor** of Proposal screens and provided **key input on data model** for V2 Proposal system

PROJECTS & VOLUNTEER WORK

Harnessing Causal Alignment in Neural Language Models   **June 2023—**
Lead Researcher
- Thesis research on developing prompt-free one-click controls for natural language generation (NLG) with LLMs
- Preliminary results show **equivalent fluency** to GPT-3.5 with **prompt-free** alignment to constraints on semantics, word choice narrative structure through modifying causal schema values

ArMol   **September 2019—September 2020**
Creator/Co-founder/Lead Developer
- Developed cross-platform React Native mobile app which constructs models of molecular structures from user-input molecule names and displays the result in AR; published on the Google Play Store
- Backend modelling pipeline for user-input molecules using structure data queried from PubChem API, app UI in Tachyons

AWARDS
- Gold Medal Division, 2020 Asia Pacific Linguistics Olympiad
- Silver Medalist, 2019 International Linguistics Olympiad
- Student Honor Roll, 2018 Canadian Computing Competition

SKILLS
- Pytorch, Pandas, R, HTML/CSS. React.js, Flask, Node.js, Java, React Native, C++, Rust