


Yuval Kansal

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EDUCATION

Princeton University

2024-2029

PhD in Electrical and Computer Engineering (GPA: 3.925/4)

Princeton, USA

- Advised by Prof. Niraj Jha (Specialization: Natural Language Processing, Smart Healthcare)
- Recipient of the Hisashi and Masae Kobayashi *67 Fellowship

University of New South Wales (UNSW Sydney)

June 2020 – May 2024

Bachelor of Engineering (Honours), Computer Engineering

Sydney, Australia

- Completed my Honours Research Thesis entitled “Improving Radio Frequency Fingerprinting by leveraging denoising Generative models” under Prof. Salil Kanhere and Dr. David Nguyen with High Distinction WAM (Honours Class 1).
- Recipient of International Scientia Coursework Scholarship (100% tuition fee waiver) for entire duration of my studies.
- Part of Dean’s Honours List 2020 and 2021 (Highly Commended), Winner of the Circular Economy Hackathon 2020, Google GDSC Campus Lead 2021-22, UNSW Student Ambassador since 2021.
- Runners up in Cybersecurity Case Competition, CSESoc Careers subcommittee member, Team Rockstar in Interchange 2020, Selected for UNSW Heroes Program 2020.

University of California, Santa Barbara (UCSB)

Jan 2023 - June 2023

Bachelor of Computer Science

Santa Barbara, USA

- Exchange student for Winter and Spring quarters 2023 under the Study Abroad Program.
- Awarded with UNSW Student Exchange Engineering Award for the entire duration of exchange.

Global Indian International School (GIIS)

2017 - 2019

High School Certificate

Punggol, Singapore

- Selected as one of the 7 students from all over India under the GIIS Global Citizen Scholarship to pursue high school in Singapore.
- Achieved 96.6% in Class 12 board examination and achieved a rank of 3 nationally.
- Silver Awardee in the prestigious Singapore Mathematical Olympiad 2018 by coming in top 10% of the nation.

PUBLICATIONS

- **Facts Do Care About Your Language: Assessing Answer Quality of Multilingual LLMs**, (*AAAI 2025 iRAISE Workshop Poster*)
Shmuel Berman, Yuval Kansal*, Lydia Liu*
- **From Solitary Directives to Interactive Encouragement! LLM Secure Code Generation by Natural Language Prompting** (*arXiv preprint*)
Shigang Liu, Bushra Sabir*, Seung Ick Jang, Yuval Kansal, Yansong Gao, Kristen Moore, Alsharif Abuadbbba, Surya Nepal*
- **Implementation of Machine Learning models to predict the photocatalytic KTC drug degradation efficiency over Zn0.5Cd0.5S/MoS2 composite** (*Journal of Water Process Engineering 2025*)
Pinki Sehrawat, Yuval Kansal; Nidhi Singhal, Sushil Kumar Kansal*
- **GuideLM: A Pedagogically-Aligned LLM for Programming Education** (*under review*)
Emily Ross, Yuval Kansal*, Jake Renzella, Alexandra Vassar and Andrew Taylor*

RESEARCH WORK EXPERIENCE

CSIRO

April 2024 – July 2024

PhD Scholarship

Sydney, Australia

- Research intern at Data61 in CSIRO for 14 weeks.
- Worked on the project – “Software secure code generation using Large Language Models”
 - Advisors: Dr. Sharif Abuadbba and Dr. Kristen Moore
- Created a pipeline to automatically verify and fix security vulnerabilities present in LLM generated code without human in the loop.

UNSW School of CSE

February 2024 – July 2024

Research Officer

Sydney

- Research Office under Dr. Jake Renzella and Dr. Sasha Vassar on the project “Integrating Large Language Models into the Debugging C Compiler for Generating Contextual Error Explanations”.
- Aim to build an open-source tool that leverages state-of-art LLM models to present compiler messages in a more comprehensible way to enhance overall learning process for new programmers.
- Created a fine-tuned model on custom dataset to improve LLM output in line with the pedagogical standards and conducted extensive user studies.

Canopus Networks, UNSW

February 2022 – August 2022

Data Analytics Intern

Sydney

- Awarded with the Taste of Research Scholarship to pursue a 60-day internship under Prof. Vijay Sivaraman.
- Involved in analyzing gaming UX data of the magnitude of 1,000,000+ records at a time from servers across Australia and produced quarterly reports published on the company’s website.
 - Produced complex and aesthetic plots to visually represent the data and important insights.
- **Skills Developed:** Pandas, Computer Networks, Data Visualization, Plotly

University of Fribourg/ Swiss Embassy

September 2021 – November 2021

Research Intern

Fribourg, Switzerland

- Awarded with the prestigious ThinkSwiss Research Scholarship to pursue a 3-month internship in Switzerland.
 - Part of the DIVA group under Prof Ingold where I worked on a model for semantic segmentation on synthetically generated historical dataset and aligning it with a framework that was built by other senior students.
- Skills Developed:** PyTorch, Image Processing, Teamwork

OTHER WORK EXPERIENCE

Airwallex

Dec 2023 – Feb 2024

Software Engineering Intern

Melbourne

- Streamlined logging and auditing of dynamic config in the FX team.
 - Found and resolved the bug that existed since the last 3 years to use dynamic config
- Created an automatic GitLab publisher and poller to coordinate config changes and publishing them to other downstream apps.
- Deployed the new applications to different environments (dev, prod, etc.) in the cloud.

Skills Developed: Git, Kotlin, Kafka, Kubernetes, Vert.x, Agile (Scrum)

Arista Networks

August 2022 – November 2022

Software Engineering Intern

Sydney

- Involved in adding additional CLI functionality to the existing applications such as Arista 7130 MetaWatch.
- Developed and modelled new functional interfaces for the MetaWatch application.
- **Skills Developed:** Systems Programming, CLI, TACC, Operating Systems, Distributed Computing

- Responsible for teaching and managing 1-2 tutorial classes of ~25 students every term studying COMP1531 (Software Engineering Fundamentals) course at UNSW with ~99% satisfaction rate.
- Involved in Marking the students' projects and giving them feedback on their code.
- Responsible for answering queries related to labs, course content and the major JavaScript-based project.
- **Skills Developed:** Express, Jest, Software Engineering, Teaching, Team management, Presentation

SERVICE

- LLM Cyber-Sec Workshop at IEEE TPS 2024 (Organizer)
- Classroom Champion cum Volunteer for Day of AI Australia 2024.

SKILLS AND INTERESTS

- **Skills:** Python, Java, C++, JavaScript, Deep Learning, Computer Vision, Generative AI, Communication, Teamwork, Event Management, Keynote Presentation
- **Interests:** Travelling, badminton, baseball, photography, swimming, running