

Sonia Sunil

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EDUCATION

Cornell University, *Master's in Professional Studies (MPS), Information Science*
National University of Singapore, *Bachelor's in Computer Engineering (Honors)*

Aug 2023 - May 2024

Aug 2017 - Aug 2021

SKILLS

<i>Programming Languages</i>	JavaScript, Typescript, Python, D3.js, HTML, CSS, C, C++, Java, SQL, C# (basic), TLA+
<i>Frameworks</i>	AngularJS, React, Vue3, Flutter (Dart)
<i>Tools</i>	Figma, Balsamiq, Miro, GitHub, Tableau, Jira, Jenkins, Bitbucket, OpenShift, ElasticSearch, Firebase, Photoshop
<i>Libraries</i>	PrimeNG, PrimeFlex, GraphQL/Apollo Client, ChartJs, AnyChart.js, AG Grid, Tailwind CSS, Bootstrap, Material-UI
<i>Others</i>	Unity, Arduino, Machine Learning, Jupyter, Scrum Methodology

Relevant Coursework

• **App Design & Prototyping** • Visual Data Analytics for the Web • Interactive Information Visualization • **Software Engineering & OOP** • **Human Computer Interaction** • Digital Technology Immersion • Designing Data Products • **Data Structures & Algorithms (C++)** • Database Systems • Techniques of Data Science • Computing for Global Development

PROFESSIONAL EXPERIENCE

Associate Software Engineer - Frontend Development, UI/UX Lead

(2 years) Jul 2021 - Jul 2023

Development Bank of Singapore (DBS), *Singapore*

- Spearheaded front-end development for the Treasury and Markets Risk Control Tower (RICO) project.
- Directed and guided the UI design and development of the RICO project from the start of 2022 as the **project's UI lead**.
- Engineered the UI of a centralized dashboard using **AngularJS**, implementing a **Micro-frontend Architecture**, and proficiently utilizing libraries such as **PrimeNG, AnyChart, ChartJS, NG-Dynamic-forms, GraphQL/Apollo Client**.
- Maintained the codebase, prioritizing and advocating component **reusability and optimizing coding** procedures.
- Collaborated closely with Business Analysts, Quality Engineers, and UX designers to **refine and enhance the UI/UX**.
- Contributed to a 'Solutions Lab' side project aimed at **prototyping an automated solution** for bank business processes, which **secured runner-up position** and was subsequently integrated into the RICO project.

Software Engineer Intern - Frontend Development

(6 months) Jun 2019 - Nov 2019

Pslove Pte Ltd (startup), *Singapore*

- Collaborated closely to **strategize, develop, deploy, test, and maintain the UI** for their Period Tracker Application's e-commerce screens.
- Self-learned **Dart** Programming and **Flutter** framework, pivotal for iOS and Android mobile application development.
- Conducted comprehensive **end-to-end user testing**, ensuring the seamless functionality of application features.
- Utilized **Firebase data analytical tools** and user feedback to evaluate user engagement levels with features, **raising retention levels** on its second phase.

ACHIEVEMENTS & EXPERIENCES

Commencement Ceremony 'College Symbol Banner Bearer' Recognition

May 2024

Cornell University, *Ithaca, NY*

- **Selected to represent** the Ann S. Bowers College of Computing and Information Science at the Cornell University Commencement Ceremonies for the 156th Graduating Class on Saturday, May 25, 2024.
- **Honor awarded for 'outstanding academic achievement' in MPS Studies.**

Graduate Research Teaching Assistant

Jan 2024 – May 2024

MPS Project, Cornell University, *Ithaca, NY*

- **Guiding Teams working for Unilever and Google** clients in **Machine Learning and UX projects**, respectively.
- Selected for **strong performance in MPS Project** in previous semester, and skills in the Frontend and UX domain.

Legal Information Institute (LII) Hackathon 2024

Mar 2024

Cornell Law, Cornell University, *Ithaca, NY*

- Developed an **ML model that could automate the tagging of terms** in the legal dictionary to improve the search algorithm and addressed the complex and unintuitive dictionary search and navigation on LII's Wex system, by **redesigning and developing the website in Vue3**.
- **Runner-up award with Cash prize** and mention of **most creative use of technology**.

EGSC Down Syndrome Association (DSA) Project / Project Lead & Frontend Developer

Nov 2018 - Nov 2019

Engineering Good Student Chapters Club, *NUS, Singapore*

- **Spearheaded a team** of five members in the DSA Project focused on aiding children with special needs in learning.
- Conducted **extensive interviews** with DSA client and observed children with Down Syndrome on-site in Educational settings to formulate a solution.
- Engineered a prototype simulating a concession card top-up machine, with a hardware system designed with **Arduino** and a **UI developed with Flutter**.
- Showcased and pitched the prototype at the Tech for Good Festival 2019 to multiple Non-Profit Organizations.
- **Successfully attracted interests of two benefactors** willing to fund further development of the project. Securing their support marked a pivotal step toward advancing the solution's development and implementation.

PROJECT WORKS

Project 'InsightEdge' - Meta Instagram client - [[Portfolio](#)]

Jan 2024 - May 2024

Cornell MBA Course - NBA6480 (*Digital Technology Immersion Practicum*)

- Developed a project showcasing disruptive innovation, with exposure to the **complete product development lifecycle**, equipped with **Tech Product Management core skills**, and knowledge on cutting-edge technology in the industry.
- Collaborated with **Meta Instagram platform's** product manager, Richa Sood, to design an **enhancement to Instagram's content-creation area with AI**.
- Conducted **user interviews** to understand user pain-points, **ideated** on possible solutions, and then visualised solution with a **Figma wireframe** prototype.

Prisoner Express App [[Github Link](#) | [Portfolio](#)]

Jan 2024 - May 2024

Cornell Graduate Course - INFO5440 (App Design & Prototyping)

- Designed and developed a digital newsletter **Progressive Web App (PWA)** for Prisoner Express, with **Vue3**, utilizing **Bootstrap** and **PrimeVue** libraries.
- Conducted **extensive User Research** to understand user needs and goals to design the app's requirements and features.

Project 'CaptionCore' – Professor Lutz Finger [[CaptionCore Github](#)]

Jan 2024 - May 2024

Cornell MBA Course - NBA6070 (Designing Data Products)

- Equipped with technical concepts in the use of **AI in product development** for businesses, to **design and develop a creative AI-driven product**, 'CaptionCore', a Caption Generator AI model specific to enhancing brand engagement on social marketing platforms.
- Absorbed **knowledge from Lutz Finger** - a data scientist, author, and entrepreneur, known for his expertise and extensive contribution to the fields of data science, artificial intelligence, and business intelligence.
- Developed the caption generator **model using BLIP and GPT-3.5**, and the model for engagement success evaluation using **BERT text classification model and GPT-4**. Model was hosted on **website created with Streamlit**.
- **Selected as one of the top 2 impressive projects**.

Microsoft Course Registration System – Microsoft client [[Portfolio](#) | [Published Blog](#)]

Aug 2023 – Nov 2023

Cornell Graduate MPS Project

- Played a pivotal role as a **UX designer and sole frontend developer** on a collaborated project with Microsoft Client, designed to showcase **Microsoft Azure Database's** capabilities by developing a course registration system.
- Conducted Primary and Secondary User Research to analyse university course registration systems, and **designed Lo-Fi, Mid-Fi and Hi-Fi UX designs on Figma** using a **comprehensive and user-centric approach**.
- Leveraged the **AngularJS** framework to build the course registration system, incorporating **PrimeNG** components.
- Presented the finalized system to clients, receiving **high praise and appreciation**, indicating a successful demonstration. Design and Development was later **published on Microsoft's Dev Blogs**.

Project 'Beauty AI' - Human Computer Interaction Project [[Portfolio](#)]

Aug 2023 - Nov 2023

Cornell Graduate HCI Course

- Guided by esteemed Professor Gilly Leshed, a recognized expert in Human-Computer Interaction and User Research, conceptualized and meticulously crafted a **Figma prototype** of an application aimed at easing the difficulties associated with learning makeup application techniques.
- Followed the **User-Centred Design Approach**, conducting comprehensive **user research**, meticulously **analysing and gathered insights**, crafting suitable **Personas**, deriving essential **product requirements**, **paper prototyping** and conducting **usability tests**, to formulate a solution that effectively addresses the problem space.
- Showcased the Figma prototype at a Poster session, earning the **prestigious 'Most Creative' project award** for most innovative prototype.

Data Visualization Projects [[Data Viz](#)]

Aug 2023 - May 2024

Cornell Graduate MPS Courses (Visual Data Analytics for the Web & Interactive Information Visualization)

- Demonstrated mastery of **D3.js** and **JavaScript** through projects focused on creating compelling **data visualizations**.
- Developed visualizations such as Taylor Swift's discography breakdown, Yelp Pittsburgh food reviews, F1 Racing, etc, through **merging, cleaning, and formatting** datasets sourced online or through means of web-scraping.
- **Reviewed literatures** in the field to be cognizant of concepts and advancements in the field, and gain insights to design user-friendly visualizations.

Solutions Lab Project

Sep 2021 - Dec 2021

Side Project at DBS Bank

- Designed and implemented a web-based tool in **AngularJS**, automating Product Risk Calibration and Rating for trading products.
- Engaged in discussions with problem owners to comprehend calculation methodologies and specific user requirements.
- The developed **prototype secured a runner-up** position, demonstrating its efficacy. Subsequently, it was **seamlessly integrated into an ongoing project** for further utilization and enhancement.

Human-Activity Recognition System

Aug 2020 - Nov 2020

NUS Computer Engineering Capstone Project Module (CG4002)

- Contributed to a team of 5 in creating a **Human Activity Recognition system** utilizing **wearable sensors**, fine-tuned **machine learning algorithms**, and a user-friendly **dashboard to visualize** detection patterns.
- Tasked with the **Machine Learning** component, employed **Python, PyTorch, Jupyter**, and various **Machine Learning tools** to craft an algorithm achieving an impressive **98% accuracy and precision** in detecting 6 distinct dance moves.

Camp Facilitation Address Book

Jan 2019 - May 2019

NUS School of Computing module Software Engineering (CS2113T) – Java OOP

- Morphed an established **Java address book** application into a tailored tool for a camp organizing committee.
- Leveraged **Java Object-Oriented Programming (OOP)** to implement features allowing seamless **data import/export via Excel sheets**, along with an added **functionality to list camp leaders and participants** separately.

Project 'CycloPath' [[Game Video Walkthrough](#)]

May 2018 - Sep 2018

NUS Module CP2106 (Independent Software Development Project) - Orbital 2018

- Proactively self-learned the **C# programming** language and gained familiarity with the **Unity IDE** to develop an **Android mobile game** designed with graphics akin to the popular game 'Temple Run.' Game's primary objective being to raise awareness about prevalent road cycling hazards.
- **Presented the fully functional prototype** during the project showcase event, demonstrating the game's mechanics.