

# Hong Sng

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## EDUCATION

### CARNEGIE MELLON UNIVERSITY – BACHELOR OF SCIENCE IN COMPUTER SCIENCE (HONORS)

- **GPA:** 3.75/4.0 | **Concentrations:** Computer Systems, Machine Learning      **AUG 2021 – DEC 2024**
- **Courses:** Operating Systems, Compilers, Cloud Computing, Databases, Distributed Systems, Machine Learning, Deep Learning, Natural Language Processing, Security, Probability

## EXPERIENCE

### CITADEL, SINGAPORE – CORE DATA ENGINEERING INTERN      **MAY 2024 – AUG 2024**

- Design data pipeline in **Python** for firmwide shift to semantic graph model, ensuring **99.9%** uptime

### LINKEDIN, BELLEVUE – BACKEND SYSTEMS INFRASTRUCTURE INTERN      **MAY 2023 – AUG 2023**

- Developed **Azure Cloud** graph query proxy in **Go** with **30%** latency, **10x** throughput boost at **2K QPS**
- Implemented autoscaling with **Kubernetes**, caching with **Redis**, failure-resiliency with **CosmosDB**

### NOVOCALL, SINGAPORE – WEB DEVELOPER INTERN      **MAY 2021 – JUL 2021**

- Integrated messaging API with **Ruby on Rails**, **PostgreSQL**, built UI with **React** driving profits by **10%**

### NOVENA, SINGAPORE – FRONT-END ENGINEERING INTERN      **NOV 2020 – APR 2021**

- Built server-rendered responsive web UI with **JavaScript**, **HTML**, **CSS** reducing load time by **20%**

## LEADERSHIP

### SCHOOL OF COMPUTER SCIENCE – LEAD TEACHING ASSISTANT      **DEC 2021 – PRESENT**

- Distributed Systems: large-scale system design, networking in **C**, **Java**, **Go** for **800** students
- Fundamentals of CS: data structures, object-oriented-programming in **Python** to **1500** students

### 6<sup>TH</sup> INFANTRY REGIMENT, SINGAPORE – COMPANY COMMANDER (NS)      **JAN 2019 – PRESENT**

- Led **600**-soldier infantry battalion for conventional and urban military trailblazing operations

## RESEARCH

### CMU COMPUTATIONAL LINGUISTICS L-LAB – NLP RESEARCH ASSISTANT      **DEC 2023 – PRESENT**

- Constructed **10K**-word datasets for language ancestry, sound law inference with **Python**, **GPT-4**

## PROJECTS

### AI-POWERED MULTIMODAL WEBTOON GENERATOR – LEAD      **DEC 2023 – PRESENT**

- Created architecture for text, image, music generation in **<1s** with **Django**, **GPT-4**, **Gemini**, **SQL**

### AUTONOMOUS AI HYDROPONICS GREENHOUSE SYSTEM – LEAD      **AUG 2023 – DEC 2023**

- Deployed **PyTorch** transformer, **Raspberry Pi**, **ROS2** interface to grow **50** radishes, turnips

## SKILLS

- **Languages:** Python, Go, Java, C, C++, C#, Rust, Scala, SML, SQL, Ruby, JS, HTML, CSS, Bash
- **Tools:** Azure, AWS, GCP, Kubernetes, Docker, Linux, Spark, Kafka, Pandas, NumPy, PyTorch
- **Natural Languages:** English, Chinese, Japanese, Korean, Indonesian, Malay