

# Dion Yi CHIA

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## Education

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- University of California, Berkeley**, Berkeley, CA Aug 2025 – Present  
*GLOBE Exchange Student*
- Relevant modules: Efficient Algorithms and Intractable Problems, Feedback Control Systems, Artificial Intelligence, Computer Networks, Databases
- Nanyang Technological University**, Singapore Aug 2023 – Dec 2027  
*BSc. in Computer Engineering, MSc. in Technology Management, Minor in Modern Languages, Expected Honors (Distinction)*
- Renaissance Engineering Program (Premier Engineering Scholars' Programme in NTU), specialization in Computer Engineering
  - Renaissance Engineering Program Scholarship (REPS) recipient
  - Grade Point Average (GPA): 3.8/4.0

## Work Experience

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- DSO National Laboratories**, Singapore May 2025 – Aug 2025  
*Algorithm Engineer Intern*
- Researched partitional, hierarchical, and density-based clustering algorithms. Benchmarked K-Means, Mean-Shift, DBSCAN, and HDBSCAN for performance and accuracy.
  - Parallelized open-source clustering algorithms in an offline Linux environment on a HIP-based GPU system, achieving a 10× speedup while preserving accuracy.
- Land Transport Authority**, Singapore Jun 2024 – Jul 2024  
*Artificial Intelligence Intern, Data Science Department*
- Researched on 4 branches of deep learning namely, Computer Vision, Natural Language Processing, Generative AI and Reinforcement Learning.
  - Created documentation to distil technical concepts for clarity and understandability for a diverse audience.
- Cosmose**, Singapore Feb 2023 – Apr 2023  
*Business Development Intern, KaiKai*
- Developed tools to automate processes such as prospecting and mailing for CRM processes using JavaScript, resulting in substantial enhancement of team productivity.
  - Covered end-to-end sales cycle of B2B products in a fast-growing tech-start-up. Surpassed targets set and acquired more than 50 leads through sales pitches.

## Extracurriculars

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- Blueprint**, University of California, Berkeley Aug 2025 – Present  
*Developer*
- Developing an offline-first system to digitalize teaching materials and improve learning accessibility in rural Ugandan communities. (*Ongoing*)
- REACH**, Nanyang Technological University Jan 2024 – Jul 2025  
*President*
- Led a team of 30 in engineering innovative solutions targeted at the disadvantaged and differently abled, including projects in various fields such as MedTech.

## Projects

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**Visual-Field Testing Booth** – A system utilising computer vision and a pan-tilt servo mechanism used to enhance traditional VF analysis. Awarded a \$15,000 (SGD) grant by Tan Tock Seng Hospital for further development.

**Finder** – Adaptive retrieval-augmented generation tool to aid students' learning built using LangChain, Ollama and Milvus.

**Inflatacare** – Smart inflation device that assists everyday movement (e.g. sitting upright) and helps prevent bedsores amongst in elderly or bedridden patients through automated pressure monitoring and load rebalancing.

## Skills

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*Languages:* Python, C, Java, React, HTML5, CSS, JavaScript, Typescript and Verilog

*Frameworks:* LangChain, Node.js, React.js, Next.js, FastAPI, Tailwind, PyQt6

*Developer Tools:* Git, GitHub, Microsoft Azure, Vercel