

# 2025 NCHC Open Hackathon

*NCHC X OpenACC X NVIDIA*

Jay Chen  
NVIDIA Solution Architect | NCHC Open Hackathon Organizer  
[jaych@nvidia.com](mailto:jaych@nvidia.com)

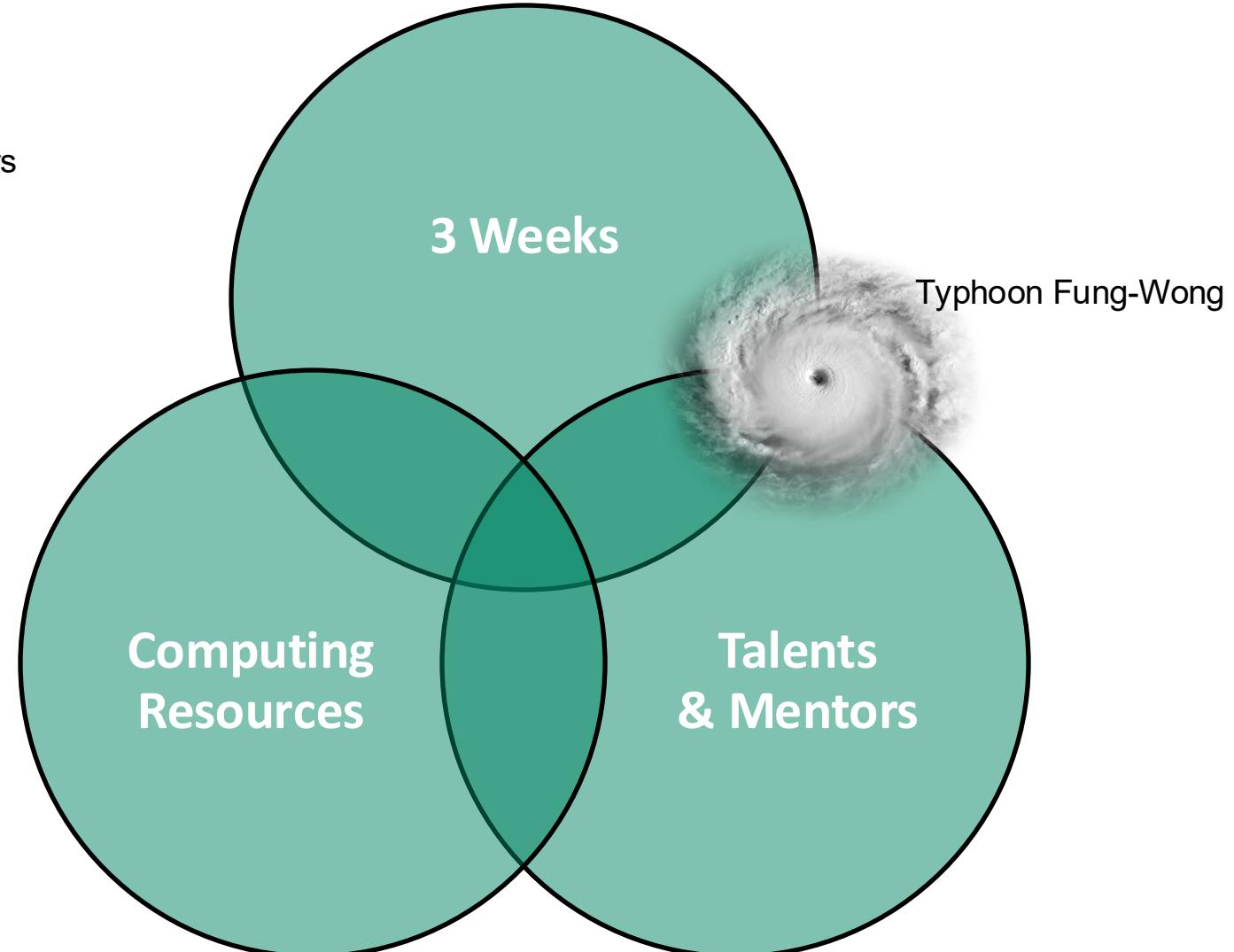
# 2025 NCHC Open Hackathon

## Important Dates

- ~~10 / 22 (Wed) : Day 0: Kick-off Meeting 15:00~17:00 PM (Online)~~
  - 5 minute presentation per team
- ~~10 / 29 (Wed) : Day 1: Scrum #1 Meeting 15:00~16:00 PM (Online)~~
  - 5 minute presentation per team
- ~~11 / 05 (Wed) : Day 2: Scrum #2 Meeting 15:00~16:00 PM (Online)~~
  - 5 minute presentation per team
- **11 / 12 (Wed) : Final Day 10:00~16:00 PM (In-person at NCHC)**
  - 12-minute presentation + 3-minute Q&A per team

# It is not easy

Thanks Teams and Mentors

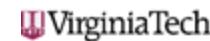


# OPENACC – CELEBRATING 15 YEARS

Building Community.



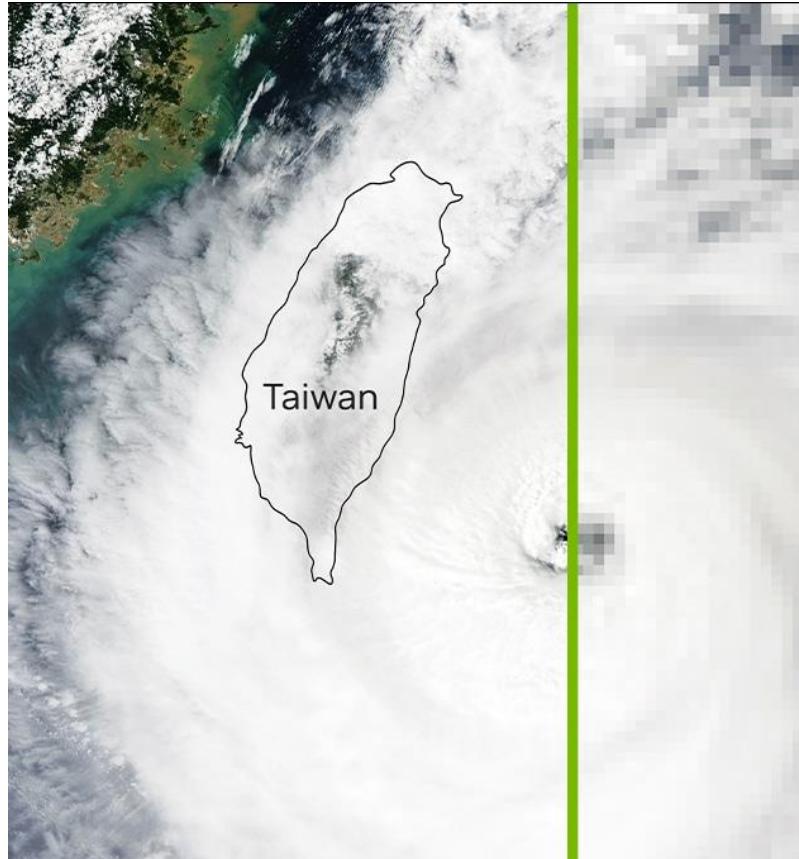
## Ecosystem Development



# NCHC 超級電腦為台灣研究帶來大躍進

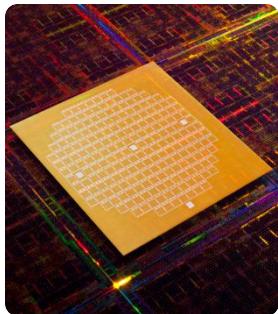
220\*H200-NVL8 + 2\*GB200-NVL72

<https://blogs.nvidia.com.tw/blog/taiwan-research-supercomputer/>



# CUDA-X Accelerates Every Industry

6.5M+ Developers & 900+ SDKs/Models



cuLitho

Computational  
Lithography



cuDSS

CAE



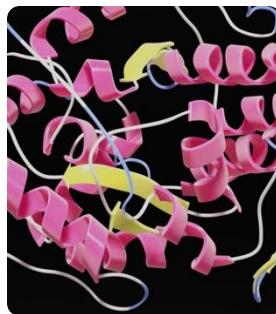
cuOpt

Decision Optimization



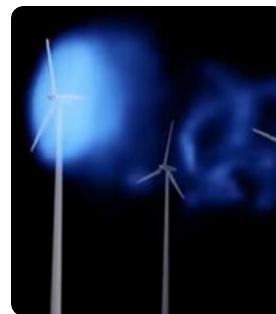
Warp

Physical Simulation



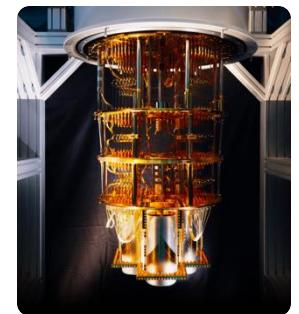
cuDF

Data Processing



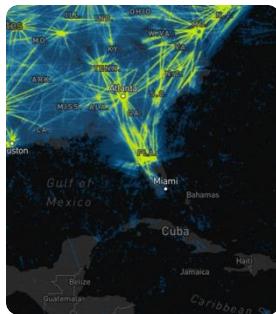
PhysicsNeMo

AI Physics



CUDA-Q

Quantum Computing



cuEquivariance

Drug & Materials  
Discovery



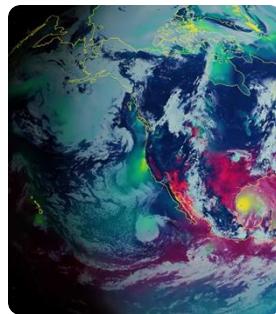
ALCHEMI

AI Materials Science



Holoscan

Edge HPC



Earth-2

Weather Analytics



Parabricks

Gene Sequencing



cuPyNumeric

Numerical Computing

# NCHC x NVIDIA Workshops/Bootcamps/Hackathons

Since 2020

Events

50+

Developers

2300+



# NCHC x NVIDIA Workshops/Bootcamps/Hackathons

Since 2020



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國家高速網路與計算中心 ...more  
[nchc.org.tw](http://nchc.org.tw) and 2 more links

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**NCHC CUDA-Q Bootcamp 2025 - 賽車計算模擬**  
半導體產業創新與升級成果\_15家廠商合輯  
81 views • 2 weeks ago

**TAIWAN AIRAP**  
AI醫學領域應用\_遠端常民監督  
TAIWAN AI RAP\_醫學領域應用\_遠端常民監督  
365 views • 3 months ago

**TAIWAN AI RAP**  
AI教育領域應用\_遠端教學  
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**TAIWAN AI RAP**  
AI金融領域應用\_金融資訊  
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AI晶片設計領域應用\_創晶智慧  
TAIWAN AI RAP\_晶片設計領域應用\_創晶智慧  
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**TAIWAN AI RAP**  
AI晶片設計領域應用\_晶圓設計  
TAIWAN AI RAP\_晶圓設計  
48 views • 2 months ago

**NCHC LLM Bootcamp 2025 - 大語言模型教育訓練\_Taiwan AI RAP**  
NCHC LLM Bootcamp 2025 - 大語言模型教育訓練 Day2  
243 views • 2 months ago

**NCHC LLM Bootcamp 2025 - 大語言模型教育訓練**  
NCHC LLM Bootcamp 2025 - 大語言模型教育訓練 Day1  
112 views • 2 months ago

**NCHC LLM Bootcamp 2025 - 大語言模型教育訓練**  
NCHC LLM Bootcamp 2025 - 大語言模型教育訓練 Day2  
214 views • 2 months ago

**NCHC N-WAY GPU Bootcamp**  
NCHC N-WAY GPU Bootcamp  
39 views • 2 months ago

**NCHC N-WAY GPU Bootcamp 2025 - NVIDIA GPU 加速運算 Day2**  
NCHC N-WAY GPU Bootcamp 2025 - NVIDIA GPU 加速運算 Day2  
39 views • 2 months ago

**NCHC N-WAY GPU Bootcamp 2025 - NVIDIA GPU 加速運算 Day1**  
NCHC N-WAY GPU Bootcamp 2025 - NVIDIA GPU 加速運算 Day1  
39 views • 2 months ago

**NVIDIA 國家高速網路與計算中心**  
NVIDIA N-WAY GPU Bootcamp  
2:22:48

**TAIWAN AI RAP說明會暨案例解說影片**  
TAIWAN AI RAP\_醫學領域應用\_遠端常民監督  
5:34

**HPC ASIA 2025 晶片關鍵HPC尋找與創新**  
HPC ASIA 2025 晶片關鍵HPC尋找與創新  
6:07

**2024 NCHC Open Hackathon**  
2024 NCHC Open Hackathon  
2:28:10

**NCHC Open Hackathon 2024**  
NCHC Open Hackathon 2024  
1:35 views • 7 months ago

**NCHC x NTU - NVIDIA BioNeMo Protein Design Workshop 2024**  
NCHC x NTU - NVIDIA BioNeMo Protein Design Workshop 2024  
1:32:38

**國研院參展台灣國際科技展**  
國研院參展台灣國際科技展  
8:06

**2024 CGGC 網路守護者挑戰賽精華**  
2024 CGGC 網路守護者挑戰賽精華  
5:55

**NCHC IoT Integration Platform: Data X**  
NCHC IoT Integration Platform: Data X  
2:41

**臺灣智慧城市上場應用典範**  
臺灣智慧城市上場應用典範  
6:36

**數位學生成功案例\_澎湖縣三崁漁港智慧管理平台**  
數位學生成功案例\_澎湖縣三崁漁港智慧管理平台  
4:03 views • 9 months ago

**NCHC N-WAY Bootcamp 2024 - NVIDIA GPU 加速運算(Day 2)**  
NCHC N-WAY Bootcamp 2024 - NVIDIA GPU 加速運算(Day 2)  
2:30:34

**Digital Twin Case: Penghu County 3D Fishing Ports Smart Management Platform**  
Digital Twin Case: Penghu County 3D Fishing Ports Smart Management Platform  
6:09 views • 9 months ago

**2024 年智慧城市上場應用典範**  
2024 年智慧城市上場應用典範  
6:36

**2023 CGGC 網路守護者挑戰賽**  
2023 CGGC 網路守護者挑戰賽  
2:58

**SEIP 2023 & International HPC Symposium event video**  
SEIP 2023 & International HPC Symposium event video  
6:09 views • 1 year ago

**健康大數據永續平台\_馬偕紀念醫院 頑丈團隊**  
健康大數據永續平台\_馬偕紀念醫院 頑丈團隊  
5:46 views • 1 year ago

# Agenda

| Welcome and Event Overview |                | 10:00~10:15 |         | Lunch Time            |               | 11:45~13:15 |         |
|----------------------------|----------------|-------------|---------|-----------------------|---------------|-------------|---------|
| HPC Session                |                | 10:15-11:30 | Speedup | AI Session            |               | 13:15-15:00 | Speedup |
| Team-02                    | Usagi          | 10:30~10:45 | 777.7x  | Team-09               | Paw Patrol    | 13:30~13:45 | 8.5x    |
| Team-06                    | PTSG Taiwan    | 10:45~11:00 | 15.0x   | Team-03               | Parallel      | 13:45~14:00 | 85.0x   |
| Team-04                    | Qa-MolGen      | 11:00~11:15 | 5417.9x | Team-07               | AI-Taiwan VVM | 14:00~14:15 | 12.8x   |
| Team-10                    | CYCU Power Lab | 11:15~11:30 | 109.2x  | Team-08               | NDVIgnition   | 14:15~14:30 | 7.2x    |
| Break & Group Photo        |                | 11:30~11:45 |         | NYCU_Bocchi the CUDA! |               | 14:30~14:45 | 4.6x    |
|                            |                |             |         | Wrap-up               |               | 14:45~15:00 |         |

# Invited Opening Speaker



Bharatkumar Sharma

NVIDIA Senior Technical Program Manager

- Tech Leader with years of experience in research, technology adoption, developer community, and mentoring at Hackathons.
- Engineering background in Parallel and High Performance Computing with proven abilities to build and manage remote teams at both technical and management level.
- Development and Research experience in the field of Software Architecture, Distributed, and Parallel Computing.
- Published papers and journal articles in the field of Parallel Computing and Software Architecture.

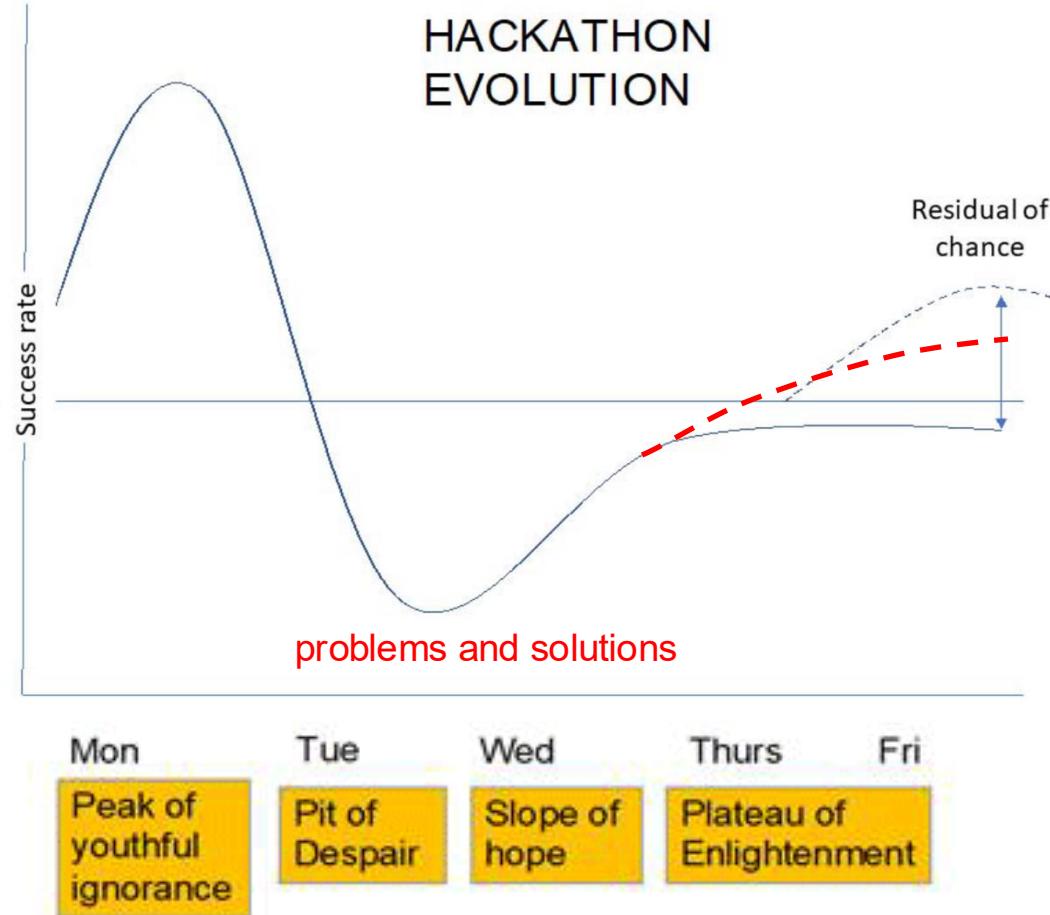
# Invited Opening Speaker



## Eric Kang

NVIDIA Senior Solution Architect Manager

Eric Kang leading the Solutions Architect team in NVIDIA, working with customers and partners to deliver the world's best solutions for artificial intelligence, deep learning and machine learning, professional visualization, and high-performance computing. Specializing in NVIDIA's advanced solutions architecture planning, he has in-depth research on high-performance computing and deep learning computing architecture and participates in relevant important projects architecture planning. Prior to joining NVIDIA, he served in HP Enterprise and as solutions consultant lead for data center transformation practice. Experience including high-performance computing, advanced data center planning, private cloud and public cloud management solutions, data center management automation.



This article highlights the Oak Ridge Leadership Compute Facilitys GPU Hackathon  
<https://www.computer.org/cSDL/magazine/cs/2018/04/mcs2018040095/13rRUxYIN88>

**OpenACC**  
More Science, Less Programming

**OPEN HACKATHONS**

**NCHC** 國家高性能研究館  
國家高速網路與計算中心  
National Center for High-performance Computing

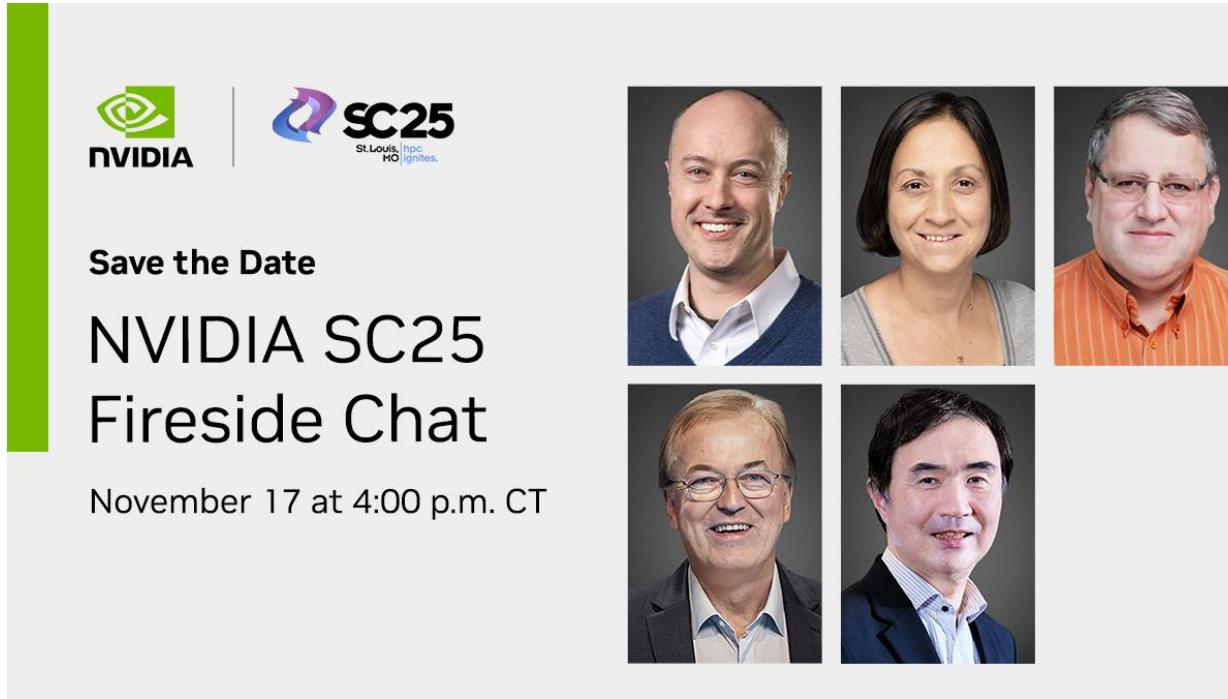
**NVIDIA**

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# Nov 16-21 SuperComputing 2025

<https://www.nvidia.com/en-us/events/supercomputing/>



The graphic features a green vertical bar on the left. At the top are the NVIDIA logo and the SC25 St. Louis, MO hpc ignites. logo. Below this, the text "Save the Date" is followed by "NVIDIA SC25 Fireside Chat". The date "November 17 at 4:00 p.m. CT" is also present. To the right of the text are five headshots of the speakers arranged in two rows of three.

Ian Buck (NVIDIA) will lead a discussion with global leaders:

- Ceren Susut (U.S. Department of Energy (DOE)),
- Dan Stanzione (Texas Advanced Computing Center (TACC)),
- Thomas Lippert (Jülich Supercomputing Centre (JSC)),
- and Satoshi Matsuoka (RIKEN).

Gain insights into how AI is revolutionizing drug discovery, astrophysics, materials science, and more.

# Thank You

50+ contributors in this hackathon

|   |                       |        |                     |
|---|-----------------------|--------|---------------------|
| 2 | Usagi                 | Lead   | Hsin-Lu (葉欣緣) Yeh   |
|   |                       | Member | Jui-En Li           |
|   |                       | Member | Hsuan-Chi Liu       |
|   |                       | Member | Tso-Fei Yen         |
|   |                       | Member | Chia-Yi Chin        |
|   |                       | Member | Jui-Chien Tsou      |
|   |                       | Member | Wei-Chin Wang       |
|   |                       | Member | Kuan-Hsun Tu        |
|   |                       | Member | Fan-Shi Liu         |
|   |                       | Mentor | Reese Wang          |
|   |                       | Mentor | Johnson Sun         |
| 3 | Parallel              | Lead   | KUAN-LIN (김채원) CHEN |
|   |                       | Member | SYUAN-HAO LI        |
|   |                       | Member | CHIA-YU YANG        |
|   |                       | Member | PIN-HSUAN HO        |
|   |                       | Member | SHANG-CHE HSIEH     |
|   |                       | Mentor | Ken Liao            |
| 4 | Qa-MolGen             | Lead   | Yu cheng (蕭宇承) Xiao |
|   |                       | Member | Yu-Ze Chen          |
|   |                       | Member | Shu-Chi Wu          |
|   |                       | Member | Ka-Lok Ng           |
|   |                       | Member | Astuti Aninda       |
|   |                       | Member | Tsu-Ling Kuo        |
|   |                       | Mentor | Pika Wang           |
| 5 | NYCU_Bocchi the CUDA! | Lead   | Chu-Siang Tseng     |
|   |                       | Member | Cheng-Zong Li       |
|   |                       | Member | Kai-Jie Lin         |
|   |                       | Member | Hsien-Cheng Huang   |
|   |                       | Mentor | Shijie Wang         |
|   |                       | Mentor | Virginia Chen       |

|    |                |        |   |
|----|----------------|--------|---|
| 6  | PTSG Taiwan    | Lead   | Ming-Chieh (林銘杰) Lin                                      |
|    |                | Member | Cheng-Cheng Yeh   |
|    |                | Member | Feng-Hua Chang  |
|    |                | Mentor | Leo Chen  |
|    |                |        | Yang-Hsien (+Chao-Shun) (+Richard) Lin (+ Zhan) (+ Huang) |
| 7  | AI-Taiwan VVM  | Lead   | YI CHANG (陳逸昌) CHEN                                       |
|    |                | Member | Chun-Kai Hsu  |
|    |                | Member | Min-Ken Hsieh   |
|    |                | Mentor | Cliff Chiu  |
|    |                | Mentor | Iven Fu   |
| 8  | NDVignition    | Lead   | HAN YIN CHANG   |
|    |                | Member | Ge-Han Wu   |
|    |                | Member | Ping Chen Hsieh   |
|    |                | Member | Chen-Yuan Chung   |
|    |                | Member | Pin-Cheng Chan  |
|    |                | Mentor | Rick Wu   |
| 9  | Paw Patrol     | Lead   | Chen-Hao (黃晨皓) Huang                                      |
|    |                | Member | Calvin Ku   |
|    |                | Member | Zih-Syuan Jhan  |
|    |                | Member | TsungHsun Tsai  |
|    |                | Member | Pu Ching  |
|    |                | Member | ShangChing Liu  |
|    |                | Mentor | Johnson Sun   |
| 10 | CYCU Power Lab | Lead   | Christian Lian Paulo Perez Rioflorido                     |
|    |                | Member | Hoang Phuong Van  |
|    |                | Member | 孟澤李   |
|    |                | Mentor | Pika Wang   |

|       |                        |                 |
|-------|------------------------|-----------------|
| Staff | Infra Management       | Johnson Sun     |
|       | Event Host             | Jay Chen        |
|       | Account Manager        | Vincent Chiu    |
|       | SA Manager             | Eddie Huang     |
|       | SA Manager             | Eric Kang       |
|       | DevTech Manger         | Ryan Jeng       |
|       | Hackathon Team Manager | Bharat Kumar    |
|       | Hackathon Team         | Apoorva Laharia |
|       | Hackathon Team         | Yash Gupta      |
|       | Marketing              | Jinny Lin       |
|       | NCHC host              | Zhoujin Wu      |
|       | LLM Mentors            | 宣庭蔡             |
|       | LLM Mentors            | 祐萱林             |

# Thank You

Feedback Survey: <https://forms.office.com/r/aB2aXG0Wc8>

- A100/H100 Cluster will be reset by today, please backup your data!
- Welcome any feedback by scanning the QR code.

