JINYU DONG

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EDUCATION

University of Cambridge, Emmanuel College — Oct 2021 – Jun 2025
MEng & BA in Information and Computer Engineering - Honours with Distinction, ranked **12th out of 266** in cohort

MEng Project: Distributed training of recurrent neural networks for working-memory tasks, optimised under biological constraints to investigate neural mechanisms. (Supervisor: Prof. Yashar Ahmadian).

INDUSTRY EXPERIENCE

Mercedes AMG High Performance Powertrains — Sep 2023 – Aug 2024
Lap Simulation Placement — *Brixworth, UK*

- Developed production-grade software on Azure DevOps for 2026 hybrid powertrains.
- Enhanced simulation infrastructure for accuracy and maintainability.
- Provided remote technical support during live F1 races, conducting real-time incident response and post-race issue tracking.

Skills: C++, Azure DevOps, Incident Response, System Optimization

HUAWEI 2012 Lab, Cambridge Research Centre — Jul 2022 – Sep 2022
Computer Architecture Intern — *Cambridge, UK*

- Converted Google workload traces into BT9 format and evaluated state-of-the-art branch predictors using the CBP-5 kit.
- Demonstrated TAGE predictor superiority on WSC traces and proposed architectural optimisations.

Skills: C++, Bash Scripting, Linux, Docker, Multithreaded Acceleration, Large-scale Data Processing

RESEARCH EXPERIENCE

University College London, Centre for Computational Science — Jul 2025 – Sep 2025 (expected)
AI-driven Drug Discovery — Supervisor: Prof. Peter Coveney — *Cambridge/London*

- Scaled deep neural network training on the Frontier exascale supercomputer to predict binding free energies, replacing costly Molecular Dynamics simulations in high-throughput drug screening.
- Optimized compute workflows for reliability, resource efficiency, and throughput across heterogeneous HPC infrastructure.

Skills: Distributed Training, ML Infrastructure, HPC, PyTorch, Large-Scale Scientific Computing, System Optimization

University of California Davis, Self-Supervised Learning Lab — Aug 2024 – Sep 2024
Representational Learning — Supervisor: Prof. Yubei Chen — *Remote*

- Co-developed a theoretical framework and algorithm for manifold extrapolation in diffusion-based image denoisers.
- Designed evaluation metrics for video extrapolation and benchmarked model performance.
- Co-authored a NeurIPS 2024 SciForDL paper based on this work. openreview.net/tG75AqtP6U

Skills: PyTorch, Diffusion Models, VAEs, MNIST Benchmarking, Video Similarity Evaluation

PUBLICATIONS

1. Z. Yun, G. Chuang, **D. Dong**, Y. Chen, *Denoising for Manifold Extrapolation*. NeurIPS SciForDL 2024
2. **D. Dong**, A. Margaritov, H. K. H. So, *Evaluating SOTA Branch Predictors on WSC Traces*. Technical Report, 2022

SELECTED HONORS & AWARDS

Frank Marriott Scholarship for Engineering (2022-2025) — for exceptional academic excellence.
China Physics Olympiad (CPhO) First Prize (2019) — Liaoning Province.

SKILLS

Programming	Python (PyTorch, TorchScript); C++; Bash; MATLAB; JavaScript; Assembly
Systems	Linux; Git; Azure DevOps; Multi-GPU & HPC; Slrum
Languages	Mandarin (native); English (fluent)