

Shi (Billy) Chen

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EDUCATION

Carnegie Mellon University, Robotics Institute

Pittsburgh, PA

Master of Science in Robotic Systems Development

May 2028

- **Fellowship:** James R. Swartz Entrepreneurial Fellow (2026–28 cohort); one of 12–14 first-year CMU graduate students selected yearly.

Fudan University

Shanghai, China

Bachelor of Science in Computer Science and Technology

July 2026

- **GPA:** 3.80/4.0 (major); 93/100 overall; rank 11 of 91.
- **Honors:** Outstanding Undergraduate Thesis Award and Shanghai Outstanding Graduate (2026); National Natural Science Foundation of China (NSFC) Youth Fund (2024, about 120 undergraduates nationwide); DataGrand Scholarship, First Class (2025); Cambridge Online Summer Research Programme (Pembroke College), First with Distinction (2024); 75th Lindau Nobel Laureate Meeting (2026), one of about 600 young scientists worldwide and 10 undergraduates from China.

University of California, Berkeley

Berkeley, CA

Exchange Student

August 2025

- **GPA:** 3.91/4.0. Coursework: Robotic Manipulation and Interaction; Advanced Large Language Model Agents.

EXPERIENCE

Intuition Core Inc.

San Francisco, CA

Co-founder and CTO

May 2025 – Present

- Co-founded an AI and robotics startup building robot deployment infrastructure; secured pre-seed funding from a Founders Fund LP and led a Shenzhen team of **8 engineers**.
- Deployed Intuition Core's intuition-1 model and Intuition Scheduling System (ISS) middleware on KUKA arms at Midea's Shunde dishwasher factory, in partnership with KUKA, running **200 inspection rounds per robot per day, 24/7**.
- Designed a Masked Autoencoder world model for self-supervised pre-training on **1,000 hours** of vision and proprioception data.
- Engineered transpacific teleoperation (Kauai and Shanghai to San Francisco) for data collection at **sub-100 ms one-way latency**.

RESEARCH EXPERIENCE

Fudan University

Shanghai, China

Project Leader

September 2024 – August 2026

- Led Generative Semantic Scene Completion, a two-year project with Prof. Weifeng Ge, recasting LiDAR semantic scene completion as discrete-diffusion generative modeling; **first-authored arXiv preprint 2608.26737** and released code and dataset.
- Developed PS3, a paired sparse-to-dense scene-synthesis pipeline in PyTorch (cascaded multinomial diffusions, virtual HDL-64E ray-tracer), expanding SemanticKITTI training data **2.67x** to 51,169 pairs.
- Designed S2D2, a discrete-diffusion correction operator lifting a frozen SCPNet to **38.8% mIoU** on SemanticKITTI hidden test, **+2.1 pp** over prior best published causal single-sweep single-sample result, with no base retraining.

University of Chicago

Remote

Summer Researcher

June 2025 – August 2025

- Extended Continuous Remeshing with Prof. Rana Hanocka to produce high-quality meshes from a single reference image via MV-Adapter multi-view generation and OpenLRM tri-plane reconstruction; crowdsourced study showed **over 70%** preference.

University of California, Berkeley

Berkeley, CA

Project Team Member

April 2025 – June 2025

- Built a GPS-free autonomous quadrotor on Agilicious (RealSense D435i, Jetson Orin Nano) with SVO Pro visual-inertial estimation and a style-transferred Flightmare/Unity simulator, advised by Prof. Shankar Sastry.
- Integrated Qwen2.5-VL (3 billion parameters) on Jetson Orin Nano to turn YOLOv8 detections into waypoint directives.

University of Cambridge, Pembroke College

Remote

Summer Researcher, Online Summer Research Programme

July 2024

- Proposed a ControlNet and Stable Diffusion pipeline for hand-over-face gesture generation with Dr. Marwa Mahmoud, raising MediaPipe confidence **from 0.248 to 0.556**; created a **170,000-image** dataset across 809 gesture types (83.5% rated good).

CHINESE PATENTS (FIRST INVENTOR)

- 3D semantic scene completion for embodied intelligence, ZL 2026 1 0956628.1, **granted September 1, 2026**.
- LiDAR bird's-eye-view semantic segmentation for embodied intelligence, ZL 2026 1 0968991.5, **granted September 1, 2026**.
- LiDAR point-cloud data augmentation for embodied intelligence, ZL 2026 1 0956630.9, **granted September 22, 2026**.

SKILLS

Programming: C, C++, Python, OCaml, MATLAB, Verilog HDL; PyTorch, PyTorch3D, JAX, OpenCV, NumPy, LangChain.

Robotics and tools: ROS/ROS2, MuJoCo, OpenAI Gym, Flightmare, Git, Linux, Docker, Blender, Unity, LaTeX.

Languages: English (Fluent), Mandarin Chinese (Native).