

Edmund Bu

 [edmundbu.github.io](https://github.com/edmundbu)

EDUCATION

Bachelor of Science in Electrical Engineering | University of California San Diego

Sep 2024 – Jun 2027

- Major depth: *Machine Learning and Controls*

RESEARCH EXPERIENCE

Xiaolong Wang Group @ UC San Diego 

Jun 2026 – Present

Undergraduate Researcher

Mentor: Anjie Cheng 

- Leading a research direction on interactive social navigation, towards humanoid robots that can adapt to human social conventions and act in real-time in dynamic environments
- Explored ideas related to learning from human-dense internet-scale video (ex. city walking tours), and on training VLAs to additionally predict scene motion as a way to develop more consistent internal world models
- Trained and deployed visual diffusion policies with a whole-body action space, enabling the learning of more expressive navigation behavior from egocentric human demonstrations
- Exploring how robots can learn to adapt *in real time* ('third-person ICL') from the human activity around them, alongside simulation-centric approaches for studying realistic multi-agent humanoid behavior
- Supported by the UCSD IDEA Engineering Research Scholarship; work remains in-progress!

Xiaolong Wang Group @ UC San Diego

Nov 2025 – May 2026

Undergraduate Research Assistant

Mentor: Anjie Cheng 

- Contributed to development of NVIDIA GEAR's self-evolving agentic embodied navigation system
- Explored Qwen3-VL-2B's spatial capabilities through small training runs, explored how SimWorld can be used for agentic evaluation / continual learning, and set up many Habitat benchmarks
- Generated atomic vision-language navigation episodes (ex. object goal, room-to-room, short-horizon instruction-following) in various simulators to considerably improve the VLA's visual grounding capabilities
- Co-authored paper under review at ICRA

Existential Risk Laboratory (XLab) @ University of Chicago 

Jun 2025 – Aug 2025

Research Fellow

Mentor: Yossi Gandelsman 

- Researched the properties of extremely fine-grained computation paths in CLIP's vision encoder using automated interpretability methods, evaluating their viability as minimal, more monosemantic units of representation
- Proposed and ran experiments that studied the extent to which visual concepts can be decomposed into more granular components (ex. a 'butterfly' neuron containing a 'butterfly clothing' sub-concept in its decomposition)
- Applied above methods to zero-shot semantic segmentation, achieving new SOTA performance for CLIP-RN
- Supported by XLab's Summer Research Fellowship; presented first-author work at NeurIPS workshop 

ACTIVITIES

AI Alignment at UC San Diego 

Sep 2025 – Present

Founder, Social Event Lead, Workshop Facilitator

- Founded organization as a space for UCSD students to learn about and discuss how AI is shaping the future
- Led from inception to a community of 200+ members by building mission branding, securing funding, recruiting a dedicated core leadership team, and consistently hosting speaker events, workshops, and research discussion groups

UC San Diego Department of Electrical and Computer Engineering

Mar 2025 – Jun 2025

Instructional Assistant

- Held office hours for C programming class, receiving 100% positive student feedback in official reviews

Yonder Dynamics 

Sep 2024 – Jun 2025

Software Team Member

- Competed in the international University Rover Challenge, placing in the top 20 worldwide
- Developed object retrieval module by training a robust YOLO model and improving depth-based path planning

Last updated Sep 2026