

Ye Jiang

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EDUCATION

University of Minnesota Twin Cities

Expected May 2028

B.S. in Mechanical Engineering | Minors in Computer Science and Mathematics | Cumulative GPA **4.00/4.00**

University Honors Program | Dean's List, Fall 2025 and Spring 2026

Relevant coursework | Thermodynamics, Statics, Dynamics, Mechanics of Materials, Circuits, Quantum Mechanics

TECHNICAL SKILLS

CAD and drawings: SolidWorks, Creo, engineering drawings, machine-shop quoting, DFM feedback

Prototyping and fabrication: FDM 3D printing, laser cutting, sheet metal, PCB assembly, soldering, fit-check prints

Test and software: Helium leak detection, cryogenic thermometry, load cells, Arduino/RPi DAQ, Python, C++

Languages: English, Mandarin

TECHNICAL EXPERIENCE

Undergraduate Researcher | UROP Recipient

May 2026–Present

SuperCDMS Dark Matter Group | Prof. Yan Liu | School of Physics and Astronomy

- Designed and built the 4K-stage heater mount; load-tested the stage at 0.54 W (3.49 K to 4.33 K), then cut conducted heat load by rewiring with quad-twist phosphor bronze; laying out its wiring-transition PCB.
- Served as engineering liaison between the University of South Dakota's Ge-detector holder design and the UMN CSE Machine Shop: compiled a 13-part drawing/STEP package, scoped a ≈\$5.3k quote, and turned shop feedback on vent holes, tolerances, and materials into design changes and a printed fit check.
- Lead a \$1,800 UROP project to redesign a 2D radioactive source mover whose open-loop steppers heated the mixing chamber from 28 mK to 0.7 K; now re-specifying the drive, cable routing, and closed-loop feedback.
- Helped commission the fridge from day one: designed a helium-line clamp, can-stacking spacers (7 printed iterations), a sheet-metal bracket, and a ¼-in aluminum feedthrough plate CNC-machined by the shop.
- Run daily dilution-refrigerator operations (can removal, leak checks, cold-trap cleaning); wrote the LN2-filling SOP.

Energy Management Intern (Student Assistant)

May 2026–Present

University of Minnesota Facilities Management | Building Controls and HVAC

- Translate mechanical plans, AHU/VAV schedules, and Johnson Controls shop drawings into controls schematics and operator graphics for the Peters Hall upgrade, revised through multiple review rounds with the controls lead.
- Develop Metasys operator graphics for 10+ campus buildings; field-tested lighting points on the BACnet network and, after finding most unresponsive, triggered a building-wide recheck.
- Screened chilled-water ΔT and flow trend data by building type, age, and EUI to flag low- ΔT , high-flow coils that waste pumping energy and chiller capacity.

ENGINEERING PROJECTS

Reaction-Wheel Self-Balancing Bicycle

January 2026–May 2026

Independent Designer and Builder | ME 2011 | [Project video](#)

- Modeled the frame in SolidWorks and built the bike from 3D-printed parts and a laser-cut flywheel for \$39.54.
- Wrote C++ PID balance control on an Arduino with MPU-6050 IMU feedback driving a brushless reaction wheel; the bike balances unassisted on two wheels.
- Traced a dead motor to supplier pin-assignment errors and corrected the wiring; then stiffened the frame and added servo steering, stepper propulsion, and voltage regulation.

1 m-Wingspan Remote-Controlled Airliner | Independent project

June 2024–June 2025

- Designed and 3D-printed the SolidWorks airframe over several iterations; integrated servos, motor, ESC, and LiPo.