BLASE LONDOÑO

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EDUCATION

Bachelor of Science **9/2024 - 6/2027**

University of California, San Diego

- Major in Mechanical Engineering, Expected June 2027
- Specialization in Controls and Robotics
- Current GPA: 3.96

TECHNICAL SKILLS

- MATLAB
- Arduino C
- Fusion 360
- AutoCAD
- Altium Designer
- 3D Printing
- Laser Cutting
- Soldering
- Python
- Java
- LaTeX
- Canva

EXPERIENCE

IEEE-Eta Kappa Nu

- *Project Lead, Thermoacoustic Refrigerator Project* **11/2025 -Present**
  - Selected to lead thermoacoustic refrigerator design project, recruiting team of first- and second-year mechanical engineering students for spring 2026 build cycle
- *Sponsorship Chair* **2/2025 - Present**
  - Secured corporate partnerships for networking events through targeted outreach campaign, consolidating 15+ years of contact data to improve engagement efficiency by 40%
- *Mechanical Team Member, MacroPad Project* **2/2025 - Present**
  - Designed 2-layer parametric keycap for integrated 0.6" OLED display with flexible housing adaptable to subteam requirements
  - Validated design through iterative prototyping and physical testing

Mentee, Apple Next-Gen Innovators Mentorship Program **10/2025 - Present**

- Engaging in bi-weekly consultations with Apple Senior Product Designer on professional development strategies and mechanical design methodologies for robotics applications
- Participating in technical workshops covering hardware engineering career pathways and product development processes

Undergraduate Student Researcher, Bandaru Group **10/2025 - Present**

- Conducting electrical characterization of semiconductor dielectrics using Keysight B1500A analyzer, supporting joint project between Professors Prabhakar Bandaru and Kenji Nomura
- Performing I-V curve measurements and capacitance analysis to evaluate material properties for next-generation electronic devices

UCSD Yonder Dynamics

- *Mechanical Team Member* **10/2025 - Present**
  - Redesigning rover wheel assembly in OnShape, reducing weight by 15% through topology optimization while maintaining structural integrity; manufactured using ASA 3D printing with carbon fiber reinforcement
- *Electrical Team Member* **10/2024 - 10/2025**
  - Engineered custom PCB for 24V/60A power distribution system in Altium Designer, achieving 20% footprint reduction through optimized component placement and high-current trace routing
  - Implemented thermal management solutions and executed fabrication tasks including crimping, soldering, and wire harnessing for rover electrical systems

MATLAB Tutor, UCSD MAE Department **8/2025 - 9/2025**

- Tutored ~35 students in MATLAB fundamentals: vectors, loops, functions, plotting
- Developed challenge problems featuring Monte Carlo methods, PDE analysis, Fourier series

PROJECTS

Robotic Arm Competition Robot **3/2025 - 6/2025**

- Designed and fabricated robot achieving 28" extension with yaw and pitch rotational capability using spherical coordinate positioning system; implemented laser-cut and 3D-printed components for structural elements
- Optimized mechanical linkages in Fusion 360 to maximize reach while maintaining structural stability during ring collection and placement tasks

MATLAB Pirouette Movement Recognition Project **8/2024 -9/2024**

- Developed LSTM model in MATLAB to classify dancer movements from IMU time-series data, achieving >85% accuracy
- Documented methodology and results for analysis paper