

# Nuha Babool

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## EDUCATION

### University of Southern California, Viterbi School of Engineering *Los Angeles, CA*

*B.S. Electrical & Computer Engineering*

*Expected Spring 2030*

Relevant Coursework: AP Computer Science A/Principles, Multivariable Calculus, Linear Algebra, AP Physics (E&M, Mechanics); Dual

Enrollment: Principles of Engineering, Digital Electronics

### Glenbrook South High School

*Aug 2022 - May 2026*

## RESEARCH & INDEPENDENT PROJECTS

### Independent Research — Biodegradable Memristors

*Ongoing*

- Fabricated 96 low-cost memristive devices on cardstock substrates using  $\text{TiO}_2$  and gelatin-NaCl active layers, achieving confirmed I-V hysteresis at under \$0.002 per device.
- Authoring a research paper under faculty review (USC), targeting submission to ArXiv; grounded in Chua's memristor theory and ECM/VCM conduction mechanisms.

### Founder — Proa

*Ongoing*

- Building a booking and payments platform for home-based service providers in diaspora communities (henna artists, braiders, nail technicians); defined V0 product scope and technical architecture.

### Northstar OS / NOVA — Personal AI Systems Project

*Ongoing*

- Designed and built a command-deck style personal operating environment with an integrated AI copilot (NOVA), including custom tool integrations.

## LEADERSHIP & EXPERIENCE

### The Rose Project — Founder

*Aug 2026 – Present*

- Designing a national micro-grant nonprofit network for women building microbusinesses, structured around student-led chapters and college-level accountability reps.

### Henna Art Business — Founder

*Apr 2024 – Present*

- Built and run a henna art business; developed and taught a curriculum reaching 2,000+ students nationally, donating \$500+/year in proceeds to charitable causes.

### Code Ninjas — Camp Teacher

*May 2026 — Aug 2026*

- Taught 100+ students over the summer in classes on AI and Machine Learning, block programming, Roblox Lua programming and 3D Printing.

### Computer Brain — Intern

*June 2026 — Aug 2026*

- Developed skills in hardware repair, differentiating between software and hardware issues, and customer service while growing foundational competencies in small business management.

### AKEB — Midwest Project Manager

*July 2025 – Jul 2026*

- Oversaw five midwestern families that have newly immigrated to the USA from Afghanistan, Tajikistan, and Iran; connected the families with mentors to navigate the school system for their children while they learn English.

### Argonne National Laboratory — Exemplary Student Research Program

*Aug 2025 - May 2026*

- Conduct research on battery material efficiency alongside a cohort and mentor from IIT; build test batteries, analyze data, and develop scientific presentation skills.

### STEM Racing — Glenbrook South

*Aug 2025 – May 2026*

- Co-founded and managed a 22-member engineering team; led CAD/CAM workshops and project management strategy that qualified the team for nationals. Developed skills in 3D modeling and printing, CNC milling, laser engraving, and sticker printing.

### CORA — Director for Chicago Chapter

*July 2023 – May 2026*

- Founded and lead a 30+ volunteer nonprofit branch; organize quarterly events reaching 1,500+ attendees and coordinate community fundraising partnerships.

## AWARDS & HONORS

- BPA:** Illinois Merit Scholar, 3rd Place Economic Research (2024), National Qualifier (2024, 2025)
- STEM Racing:** Best Engineered Car (2026), National Qualifier (2026)
- Girl Scouts Gold Award Recipient 2026**
- NCWIT Aspirations in Computing Recipient 2026**

## SKILLS

**Technical:** Python, C++, JavaScript/HTML/CSS, Java, Autodesk Fusion 360, CAD/CAM, Figma, Adobe Illustrator, Framer

**Languages:** English (native), Urdu, Hindi, Gujarati, Chinese, Swahili