Mansour Doumbia

mansourdoumbia@college.harvard.edu | New York, NY | 347-364-4481 | Portfolio: mansourd.com |
https://www.linkedin.com/in/mansour-doumbia

EDUCATION

Harvard University | Cambridge, MA *May 2028*

Concentration: Mechanical Engineering S.B & Neuroscience Secondary

GPA: 3.6/4.0

Relevant Courses: Statistics and Probability (STAT 110), Linear Algebra with Proofs (MATH21A), Multivariable Calculus (MATH22A), O&P DEs (AM105), CAD and Machining (ES51), Mechanical Systems (ES125), Space Engineering (ESE160)

EXPERIENCE

Harvard University BioRobotics Lab | *Undergraduate Researcher* | Boston, MA *July 2025 – Present*

- Developed PointNet-based ML model, improving terrain classification accuracy from 85% to 92%, enabling more reliable decision-making in navigation systems. Utilized Git for version control.
- Integrated real-time vision inference into an assistive mechanical system, balancing accuracy, latency, and reliability for users with visual and mobility impairments.

Minerva Startup | *Cofounder and Head Designer* | Boston, MA *May 2025 – September 2025*

- Co-founded defense-tech startup, developing software for XREAL AR glasses for ID verification and rapid information lookup.
- Raised $10K in pre-seed funding and engaged strategic stakeholders (including IQT) in early partnership discussions.

Brothers Auto-Repair Shop | *Bodyworker & Customer Service* | New York, NY *September 2021 – September 2024*

- Performed auto-body repairs, including welding and metal fabrication, to restore damaged panels and components.
- Led digitization of customer records and standardized vehicle intake documentation to improve accuracy and retrieval.

USC Astrophysics Department | *Machine Learning Assistant* | Remote *September 2023 – August 2024*

- Analyzed 4K+ time series observations from NASA TESS and Hubble using MCMC and Bayesian modeling to characterize variability and improve predictive performance.
- Evaluated limitations in existing predictive models and built simulation-based alternatives, improving forecasting accuracy.

LEADERSHIP & ACTIVITIES

NASA L'SPACE Program | *Administrative Lead* | Remote *August 2025 – Present*

- Won $10k in funding and co-led an 8-person team to develop a 40-page mission concept selected for final review by NASA.
- Evaluated design trade-offs and condensed findings into concise recommendations after discussing with our 12 advisors.
- Established communications with Subject Matter Experts (SMEs) who range from faculty advisors to military officials.

Harvard University Satellite Team | *Mechanical Subteam* | Boston, MA *February 2025 – December 2025*

- Designed and machined major mechanical components for a CubeSat magnetorquer and Attitude Determination and Control System (ADCS), using Inertial Measurement Units, collaborating with a 6-person team to meet requirements.
- Utilized NASA's GMAT scripts to simulate satellite's atmospheric trajectory.

Harvard University Robotics Club | *Battery Management Developer* | Boston, MA *February 2025 – December 2025*

- Designed a battery management system in LTSpice for HURC's Rover Challenge entry, validating behavior via simulation.
- Optimized BMS circuitry and embedded control to improve power efficiency and extend rover operating time.

Harvard Powerlifting Club | *Social Chair* | Boston, MA *August 2024 – Present*

- Increased membership to 130+ by leading recruitment, organizing transportation to the Ivy Cup, and managing outreach.
- Spearheaded Social Media Campaign and organized Harvard-Yale Mixer where 40+ members from both schools attended.

Freelance Tutoring | *Freelancer* | New York, NY *December 2024 – Present*

- Directly communicated, negotiated, and sustained relationships with 20+ clients.
- Designed individualized study plans that helped 3 students achieve top SHSAT scores (550+) and averaged a 15% SAT increase.

SKILLS

Technical: Python, Embedded System / C++, Git, LTSPICE, CAD, Fluid Simulation (CFD), Welding

Interests: Cycling, Boxing, Thrifting, Hiking

Groups: Black Men's Forum, Harvard Crimson Newspaper, NSBSE