Arjun Suryawanshi

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science, Philadelphia, PA *May 2028*
Bachelor of Science in Engineering for Computer Science and Bioengineering
GPA: 3.97/4.00
Relevant Coursework: CIS 1200 (Intro to Programming, Java, OCaml), CIS 1210 (Data Structures & Algorithms), CIS 1600 (Discrete Mathematics), CIS 2400 (Machine, Assembly, C), CIS 2620 (Automata & Complexity), NETS 2120 (Cloud Computing, AWS, JavaScript, Spark), MATH 1410 (Multivariable Calculus), MATH 2400 (Linear Algebra), STAT 4300 (Probability)

Unionville High School, West Chester, PA *June 2024*
GPA: 4.0/4.0; *SAT*: 1590 (790 EBRW / 800 Math); *Honors*: 2024 Regeneron Science Talent Search Scholar

SKILLS

Programming/Math: Java, Python (NumPy/Pandas), C, OpenCV, Machine Learning (TensorFlow), SQL, AWS DynamoDB, JavaScript, Spark, Docker, Git, Software Development, Competitive Math (3x AIME Qualifier)
Computer Assisted Design/Mechanical: Solidworks, Fusion 360, Ansys, Instron tensile testing, Design for Manufacturing (DFM)
Professional: Microsoft Office Suite (Word, Excel, PowerPoint), Public Speaking (former National Circuit Debater)

WORK & RELEVANT EXPERIENCE

New Bolton Center Endocrinology Lab at Penn Vet | *Computational Researcher*, Kennett Square, PA *June 2024 – Present*
- Develop a machine learning-based computer-vision model to classify horse behavior associated with disease, hand-label >3000 data sample and testing >50 models to create a model with approx. 82% accuracy in pose estimation
- Create a custom 24/7 4-camera suite with OpenCV-based triangulation and Random Forest classification

ArmLev: An Arm-Stabilization Device to Mitigate Tremors | *Independent/Personal Project* *October 2023 – April 2024*
- Engineered a low-cost, wearable, and dual-mechanism biomedical device to stabilize patients with arm tremors; activated within 0.3 seconds with >90% reliability; received the Regeneron Science Talent Search (STS) Scholar Award

Baur Lab at the Perelman School of Medicine | *Student Researcher,* Philadelphia, PA *Sept. 2024 – May 2025*
- Researched the effects of NAD precursors (NR & NMN) on mitochondrial function, finding >30% difference in survival rate for treated mice; published in JCI, co-contributor on "NAD precursors prolong survival and improve cardiac phenotypes in a mouse model of Friedreich's Ataxia"
- Updated LC-MS and MALDI-MS-based metabolomics data analysis pipelines to classify/visualize cardiac and liver tissue
- Performed statistical metabolic biomarker analysis, identifying 8 metabolites to classify SLC25A51 gene-edited mice

LEADERSHIP, PROJECTS, & EXTRACURRICULARS

SustainaView | *Co-Developer – Created at PennApps Hackathon* *Sept 2025*
- Programmed *SustainaView*, a React Native + Expo mobile app that uses AI (Gemini & SerpAPI) and computer vision to analyze a photo of a user's room, generate eco-friendly decor suggestions, and visualize a sustainable room makeover
- Built a full-stack backend with Node.js/Express, using MongoDB Atlas for user & wishlist data and AWS S3 for secure image storage; implemented authentication, cost comparisons, and sharing features for a clean UI/UX

CIS 1200 (Programming Languages & Techniques) Teaching Assistant *August 2025 – Present*
- Selected as 1/8 TAs from over 50 applicants based on course performance and mastery of material
- Teach a recitation of 17 students, >90 answers to student questions on Ed (most out of any TA)

Penn Electric Racing | *Member of Suspension and Vehicle Dynamics (VD) Subteams* *September 2024 - Present*
- Enhance Quasi-Static Simulation Python Software – integration of a new aerodynamics map to improve sim accuracy
- Design Anti-Roll Bars for 2025 car's suspension – conduct 4 compliance tests to verify tolerances within 0.005", improve calculations with a 6-DOF moment balance solver, leading to 30% improved correctness in ARB tuning range
- Implement carbon-fiber control arms & custom bearing housings, validating via Instron tensile/compressive testing

Penn Engineering Student Activities Council (ESAC) | *Treasurer (current); Freshman Liaison (former)* *September 2024 - Present*
- Manage and approve requests for $40,000 of funding across 42+ Penn Engineering clubs
- Automate funding approval process using JavaScript, saving 1-2 hours for bi-weekly funding requests
- Assist with social events for all 1500+ engineering undergrads, such as ESAC's annual Engineering Formal