Curriculum vitae

Aysel Elshenawy. Electrical engineering, hardware, research.

aelshenawy2023@fau.edu / 561-825-6666 / linkedin.com/in/aysel-elshenawy / github.com/aysel-elsh

Education

IN PROGRESS

Florida Atlantic University
B.S. Electrical Engineering, dual enrollment

118 credits completed, 26 in progress. GPA 3.85. Current: Electronics 1, Electrical Machines, Signals and Digital Filter Design, Systems Programming, Intro to Data Science and Analytics.

CLASS OF 2027

FAU High School
Full-time dual enrollment

GPA 3.95 unweighted, 5.45 weighted. National Merit Commended Scholar.

Engineering and research

ONGOING

ThermoVolt Marine, Founder and lead engineer
FAU Tech Runway venture

Every boat engine dumps heat into the water it floats on. ThermoVolt catches some of it on the way out.

RETURNING SINCE AUG 2026

Medical device hardware, Hardware engineering extern
Aventusoft LLC

Small, light boards for a wearable that listens to the heart.

COMPLETED

Underwater robotics and XR teleoperation, Undergraduate researcher
FAU College of Engineering

Piloting an underwater robot with your head and hands instead of a joystick.

COMPLETED

Neurodegenerative clearance research, Research support
FAU Schmidt College of Medicine

How the brain clears amyloid-beta, the protein that builds up in Alzheimer's disease.

Patents and publications

NOV 2026

Dual-Objective Control of Thermoelectric Waste-Heat Recovery on Marine Engine Cooling Circuits
U.S. provisional patent application, filed pro se. Sole inventor, 20 claims.

NOV 2026

Dual-Objective Control of Thermoelectric Waste-Heat Recovery in Marine Raw-Water Cooling Circuits
IOCMSE 2026, abstract accepted

2026

ThermoVolt Marine preprint
Zenodo

2026	Abstract, Sigma Xi IFoRE Student Awards Accepted
IN PROGRESS	Dual-Objective Thermoelectric Waste-Heat Recovery for Thermal Discharge Mitigation in Marine Raw-Water Cooling Circuits Florida Water Resources Journal, by invitation of the Stockholm Junior Water Prize Florida state chair

Awards

2026	Winner, National Green Difference Award Project Green Schools. One of 42 worldwide and 1 of 2 in Florida, honored at Columbia University.
	Top Sustainability Innovation Award, Florida State Science and Engineering Fair Also placed 6th
	First place, Palm Beach Regional Science and Engineering Fair
	Third place, Stockholm Junior Water Prize, Florida Paper invited for publication in the Florida Water Resources Journal.
	Best Technical Excellence Award, Aventusoft Medical device hardware team
2026	Finalist, Guy Harvey Foundation Conservation Scholar Ocean Exchange
2026	Collegiate finalist, Climate Summit Innovation Showcase
	$100k in funding and resources, FAU Tech Runway Accelerator participant since 10th grade.
	Top 5, FAU Business Pitch Competition Ocean economy track
	State finalist, Future Waves Competition Top 10 innovations statewide, $1,000 grant
	Entrepreneurial funding, FAU WAVE
2026	Third place internationally, HOSA International Leadership Conference Family Medicine
	Commended Scholar, National Merit Scholarship Program
	Gold, HOSA Barbara James Service Award
	Recipient, Youth District Coalition Champion Palm Beach County youth prevention work

Leadership and service (986 hours)

2026–27	**President, Teen Coalition in Action** ~300 hours The youth arm of the Palm Beach County Behavioral Health Coalition, working on teen mental health and prevention. Member since middle school; treasurer, then secretary, now president.
FOURTH YEAR	**Lead intern, project creator and Life Skills Portal lead, Speak Up for Kids of Palm Beach County** 561+ hours Speak Up for Kids supports children in foster care. I work with student chapters at more than a dozen county schools that run projects for those kids.
2026–27	**President, Competitive Research Club, FAU High School** A club that helps students take original research to competitions like Sigma Xi and Regeneron STS.
THIRD YEAR	**Officer and peer mentor, HOSA–Future Health Professionals** Qualified for states both prior years and placed third internationally in 2026.
	S.T.A.R.S. Ambassador, Marcus Center for Innovation and Research Assisted with 40+ lab types across grade levels and wrote original lesson plans.
	Math tutor, Florida Atlantic University Tutored university students in math.
SINCE 2024	**Varsity swimmer, FAU High School Swimming** Three seasons on varsity. FHSAA Class 2A state qualifier.

Skills

HARDWARE	Schematic capture and PCB layout (KiCad), soldering, board bring-up and test, power electronics, wireless charging
EMBEDDED AND ROBOTICS	Portenta H7, Raspberry Pi, ROS, Unity, Meta Quest 3, BlueROV2
RESEARCH	Experimental design, statistical analysis, technical writing in IEEE format, provisional patent drafting
LANGUAGES	English, Arabic