AARON ANGEL NETTO

ENGINEER · PROCUREMENT & DOCUMENTATION · PRODUCT DESIGN & PROTOTYPING · MAKER

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PROFILE

Electronics & Communication Engineer and hands-on builder who takes ideas from concept to working hardware. Works across CAD, 3D printing, machining, embedded electronics and engine building, and learns whatever each project needs to get it built, tested and improved.

CORE SKILLS

Procurement & Admin	Supplier vetting, quote comparison, negotiation, purchase orders, lead-time and stock tracking, documentation and records, Microsoft Word, Excel & PowerPoint
CAD & Analysis	Autodesk Fusion, FreeCAD, parametric modelling, reverse engineering, FEA (load, stress, deformation), DFM, tolerances
Manufacturing	FDM 3D printing, slicing & print tuning, ABS rapid prototyping, acetone vapour smoothing, laser cutting, lathe and CNC machining, fit & inspection
Electronics & Firmware	Arduino, BigTreeTech controllers, stepper systems, wiring, Marlin firmware, PlatformIO, SMD-level repair
Software & Vision	Python, MediaPipe, YOLOv8, VS Code, HTML/CSS/JavaScript (built and deployed own portfolio site)
Mechanical	Engine rebuilds, boring & sleeving, head machining, valve work, gearbox and clutch systems
Creative	DaVinci Resolve, CapCut, videography, scripting, colour grading

EXPERIENCE

Procurement and Documentation Official, KAPICO

Present

Kuwait

- Handles procurement and documentation for the company.

Founder & Freelance CAD Designer, Independent 3D Printing Business

2025 – Aug 2026

Clients in India and international markets · Closed as a completed chapter

- Designed custom and replacement parts in Fusion for motorcycles, cars and obsolete machinery.
- Reverse-engineered discontinued components where no drawings or suppliers exist.
- Ran the full cycle: client brief, measurement, CAD, prototype, testing, refinement, quality check and dispatch.
- Handled quotations, supplier sourcing, filament and hardware purchasing, lead times and stock.
- Added a free acetone vapour-smoothed ABS figurine to every order as a signature finishing touch.

Precision Machining, Motorcycle Big Bore Kit Development

Project-based

- Assisted in developing big bore cylinder components, including for the Royal Enfield Hunter 350.
- Worked to tight tolerances on lathe and CNC; measured, fitted and refined parts; coordinated machine shops and inspected their output.

Automotive & Electronics Repair

Hands-on

- Full engine strip-downs and rebuilds, boring and sleeving, head machining, valve work, thread repair, custom clutch cables, Suzuki Swift gearbox work.
- SMD-level fault finding on water-damaged ECUs: circuit tracing, component testing and board-level repair.

Videographer & Content Creator

Freelance

- Royal Enfield franchise: promotional advertisement from scripting and filming to editing and post-production.
- Supreme Food Co., Kollam: Lead Videographer, five promotional short-form videos.
- QStudios, Kuwait: two-week video-editing internship.

KEY ENGINEERING PROJECTS

Custom Cement 3D Printer

College major project

- Designed and built a cement-based 3D printer from scratch: mechanical structure, motion, electronics and extrusion.
- Custom auger-based extrusion and peristaltic pump delivery for a non-thermoplastic material, on a BigTreeTech controller running Marlin.
- Solved material flow, nozzle geometry and layer deposition problems through repeated build-test-fix cycles.

Gesture-Controlled Robotic Arm

Built single-handedly

- Robotic arm laser-cut from 3 mm acrylic sheet, driven by hand gestures using MediaPipe (21-point hand tracking) and YOLOv8.
- Arduino-based motor control for real-time response.

3D-Printed Electric Guitar

Concept & modelling

- Fully sketched and modelled in Autodesk Fusion; 3D model complete, physical build not started yet.
- 20 × 40 mm aluminium extrusion backbone running into the neck, hexagonal through-hole body, two humbuckers, 25.5" scale, 22 frets.
- Split into bolt-together modules that fit a 220 × 220 × 250 mm print bed.

Universal Mouldable Splint (Concept)

Product design

- Flat-bed-printable splint heat-formed with hot water to fit the patient; lighter than a conventional cast, designed for low-cost local fabrication.
- Developed with a hospital partner under NDA. Product-development concept, not a clinically validated device.

Motorcycle Builds: "Ava: The Rebirth" & "Toraa"

Personal builds

- Hero Splendor (Ava): 97cc to 135cc big bore, ported head with bigger valves, air- to oil-cooled conversion, custom airbox with velocity stacks and EDF forced intake, full rewire, motocross-style ride-height conversion.
- Royal Enfield Hunter 350 (Toraa): Hitchcocks high-lift cam, slipper clutch, high-flow intake with 3D-printed cover, 410cc big bore attempt (limited by the stock ECU).

EDUCATION

B.Tech, Electronics & Communication Engineering, College of Engineering Perumon, Kerala (APJ Abdul Kalam Technological University), 2021 – 2025 · *Coursework completed; final certification pending.*

Higher Secondary (12th Grade), Jabriya Indian School, Kuwait

WORKSHOPS & TRAINING

- Electric Vehicles workshop, NIT Calicut
- BIS workshop on testing procedures for ISI-certified helmets
- Bug Bounty & Cybersecurity workshop, IEEE SB CE-Perumon
- 7-day Flutter internship, Revertech IT Solutions (May 2023)

ALSO

- **IT support:** PC builds and upgrades, Windows and Linux installs, fault isolation, malware removal.
- **Leadership:** Founder & President, Anime Club, CE Perumon (4 years).
- **Languages:** English, Hindi, Malayalam, Japanese (learning).