Micah Ramos

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EDUCATION

California Baptist University, Riverside, CA Expected Dec 2027

B.S. Mechanical Engineering, Minor in Aerospace Engineering | Member, SAWE (Society of Allied Weight Engineers)

ENGINEERING EXPERIENCE

Mass Properties Lead Jul 2025 – Present

CBU Motorsports, Formula SAE Electric

- Founded the team's mass properties process: built the method and live Excel mass budget that tracks weight, CG and moment of inertia for every subsystem of the Charger 6 EV through PDR, CDR, build freeze and as-built, backed by a component-weight history across Charger 4–6.
- Serve as the data hub for other subteams: axle loads and sprung/unsprung mass for Suspension, CG vs. center of pressure for Aero and weight-transfer inputs for Powertrain; calculate vehicle MOI as inputs for vehicle dynamics calculations.
- Ran an OptimumLap sensitivity study (~0.021 s/kg; a 50 kg cut is worth ~2% lap time) to set mass targets, then tracked **23 lb** of reductions across Aero, Chassis, Driver Controls and Composites.

Body & Composites Design Lead Nov 2024 – Present

CBU Motorsports, Formula SAE Electric

- Lead the composite body from SolidWorks surface model to finished CFRP part: design tooling, program CAM and run a ShopSabre CNC router to cut foam plug molds, then fabricate by wet layup and resin infusion.
- Designed a flush NACA duct in the bodywork to cool the battery; STAR-CCM+ CFD showed **0.07 kg/s vs. the 0.05 kg/s** Powertrain required (+40%).
- Ran coupon tests comparing carbon, Kevlar and fiberglass laminates to guide material selection.
- Fixed body-panel fit gaps from as-built chassis vs. CAD differences by oversizing overlapping panels.
- Manage **7 composites interns** to grow a team that can take over the role: schedule weekly 1:1s, run knowledge transfer on design, tooling and layup, and assign intern-owned projects (composite and resin-infusion epoxy calculators, replacing car parts with composite components).

Aerodynamics Lead, Senior Capstone Sep 2026 – Present

SAE Aero Design, Micro Class, California Baptist University

- Set the aerodynamic configuration for a 2027 Micro Class aircraft: 47 in S1223 high-lift wing at 0° incidence (~5° AoA on the takeoff roll, 0–3° in flight) and an oversized NACA 0018 tail for the airfoil's pitching moment.
- Ran 3D STAR-CCM+ sweeps from 0° to 21°; adding winglets raised max CL from **2.10 to 2.49** and L/D by about **22%** at 3–9°.
- Designed a two-spar carbon tube wing with 3D-printed ribs; sized it in Ansys Mechanical at ~20 lbf, about twice the 10.3 lbf CFD max lift, and topology-optimized the ribs.

OTHER EXPERIENCE

Machine Shop Assistant Apr 2026 – Present

California Baptist University

- Machine parts on CNC mill, lathe and router; train students and faculty on setup and shop safety.

Audio-Visual Team Lead Jan 2024 – Present

California Baptist University, Conferences & Events

- Lead a 12-person crew running large live events and troubleshooting in real time.

SKILLS

Mass properties: Weight, CG and MOI analysis; mass budgets and weight tracking; Excel; OptimumLap
CAD & analysis: SolidWorks (Parts, Surfaces, Assemblies, FEA), Fusion 360, Siemens STAR-CCM+, Ansys Mechanical
Manufacturing: CFRP wet layup, resin infusion, forged carbon, mold and tooling design, CAM, CNC router / mill / lathe, coupon testing
Languages: English, French (functional)