

KONDWANI PHIRI

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EDUCATION

University of Southern California Los Angeles, CA
Bachelor of Science, Aerospace & Mechanical Engineering, Cinematic Arts December 2026
Relevant Coursework: Thermodynamics, Calculus I-III, Differential Equations, Materials Science, Dynamics, Dynamic Systems, Physics I-III, Mechoptronics Laboratory, Engineering Mechanics, Statics, Heat Transfer, Dynamics of Fluids, Mechanical Design, Advanced CAD
[linkedin.com/in/kondwaniphiri7](https://www.linkedin.com/in/kondwaniphiri7) (Film/Photography/Writing Portfolio available on kondwaniphiri.com)

EXPERIENCE

USC CRITMetic & META Los Angeles, CA
Research Intern / Technical Producer / Project Manager May 2025 – Present

- Coordinate research and design sprints for an AI-driven VR/platform mental health intervention, managing scheduling, logistics, and deliverables across a 10+ person research team
- Run think-aloud and RITE Method usability testing on Meta Quest VR experiences; analyze resulting data (issue frequency, severity, usability/acceptability) to prioritize fixes and inform the design roadmap
- Liaise between research staff and app developers/designers to translate user feedback into prioritized bug fixes and feature improvements, contributing to the resolution of 650+ dev tickets and 192 beta-testing issues
- Document testing procedures and synthesize feedback across Google Docs, Notion, and Slack, supporting participatory co-design research with student and teacher stakeholders

Georgetown University (Department of Physics – DelGadoLab) Washington, DC
Physics Research Intern June 2024 – August 2024

- Summer research assistant at Georgetown University under the provost's distinguished professor Emanuela Del Gado
- Performed independent analytical research and breakdown of stress and strain in amorphous materials, analyzing breakage point, yielding, and failure under varied gel and shear conditions in QtGrace and MATLAB; completed over 30 samples across materials including carbon, crystalline aluminum, low-grade diamond, and gold
- Analyzed and presented the uses and applications, including product design, structural analysis, building science, and urban planning, with a focus on shear and strain breakage effects on said products and industries

LEADERSHIP AND PROFESSIONAL DEVELOPMENT

USC BlackGen Capital Los Angeles, CA
Vice President of Public Relations September 2022 - May 2025

- BlackGen Capital: a student-run investment fund managing over \$100,000 in assets with backing from Warburg Pincus, JP Morgan, and others.
- Led a case team to 1st place in two stock pitch competitions, which included presenting company overviews, market projections, and DCF analyses.
- Oversaw all PR, events, and social strategy across 5+ partner universities, driving chapter growth by 40% and helping the only California chapter set an all-time record of 100 member applicants.

PROJECTS

Ducted Fan Propellers for UAV Los Angeles, CA
Co-Designer & Engineer August – December 2025

- Designing and testing additively manufactured ducted-fan propellers for UAVs, targeting around 15% improvements in thrust-per-watt and thrust-to-weight over open-propeller baselines

Custom Photographic Light Meter Los Angeles, CA
Designer & Developer May 2026

- Designed and built a handheld light meter for film and photography exposure metering, integrating a Particle Photon 2 microcontroller with a lux sensor and OLED readout, programmed in C++ via Workbench
- Implemented exposure calculation logic converting measured illuminance into shutter speed, aperture (f-stop), and ISO triplets; validated readings against a commercial reference meter
- Engineered the full hardware stack: sensor wiring, power management, and enclosure layout. applying embedded systems fundamentals from TAC 348 coursework

Centrifugal Governor — Parametric FEA Design Study (AME 408) Los Angeles, CA
Mechanical Design Engineer (Group of 4) Spring 2026

- Designed a four-leg centrifugal governor in MIRAGE 250 CVM steel for 7,000 rad/s operation, optimizing geometry across 5 variables under stress, deflection, frequency, and packaging constraints in SolidWorks Simulation
- Swept 40+ configurations to a final design with 1,793 MPa peak von Mises stress (1.23 safety factor vs. 2,200 MPa yield) and 1.234 mm tip deflection inside a 32 mm housing
- Ran a 16-step mesh convergence study with curvature-based refinement, validating a 57,953-node mesh (99.6% of elements at aspect ratio below 3) with stress stable to within 20 MPa

SKILLS & INTERESTS

Skills: MATLAB, SolidWorks, C++, Electronic Wiring, NX, CAD, Python, Adobe Cloud Software, Excel, Screenwriting, Writing, Filmmaking, JavaScript | **Languages:** English, Conversational French | **Interests:** Film and Television, Music & Entertainment Industry, History, Finance & Business, Sports, and the Washington Commanders, Food, Travel, Classic Literature