

# VARAD LAD

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Dear Hiring Team,

With a Master's in Mechanical Engineering and 5 years of hands-on experience across semiconductor fabs, data center infrastructure, and R&D labs, I bring a proven record of turning engineering complexity into measurable impact. From mechanical design and thermal modeling to process optimization and reliability engineering, my work has cut downtime by 25%, raised yield by 12%, and delivered operational savings of \$120,000—results I'm excited to bring to innovative and fast-moving tech environments like yours.

## Engineering Excellence Across Disciplines

At TSMC, I led mechanical projects involving HVAC, air abatement, and critical utilities for advanced 4nm, 3nm, and 2nm semiconductor fabs—cutting downtime by 25% and saving \$120,000 through SCADA-based diagnostics and N+1 redundancy design. At Rayn Innovation, I engineered thin-film coatings with CVD, PVD, and ALD, optimizing recipe uniformity using JMP-based DOE and validating outcomes with SEM, XRD, and UV-Vis. Previously at Chemtech, I improved blade production throughput and reduced system failures using predictive maintenance and FMEA, generating \$48,000 in cost savings.

My work also includes hands-on mechanical design, thermal simulation, and hardware reliability testing across high-wattage systems. With strong CAD proficiency and deep code compliance (ASHRAE, ASME, and ICC, IBC, IMC, etc.), I design resilient, efficient, and scalable systems across both R&D and facility-scale infrastructure and complex tools.

## Technical Leadership & Public Engagement & Industry Advocacy

I've led multidisciplinary teams across high-stakes environments, driving BIM coordination, field conflict resolution, and stakeholder alignment for large-scale mechanical scopes. At TSMC, I created SOPs, trained technicians, and restored fab uptime within 24 hours after a demister failure. At Marketech, I managed a 60-tool hookup timeline across design, ownership, and site constraints. During my NASA internship, I led a L'SPACE Project Proposal initiative and collaborated with aerospace mentors on simulation-driven optimization and design. Earlier, I was Head of Chassis team for Formula-1 SUPRA (FSAE), where I oversaw subsystem integration and testing—experiences that taught me how to manage fast-paced design-build cycles, vendor relationships, and team execution under real-world pressure.

I've been honored with ASU's SunAward for Excellence and the Space for Humans Writer Award for bridging technical concepts with real-life impact. I served as Rayn Innovation's spokesperson at the MRS Conference in Seattle and led public-facing STEM outreach for TSMC's K-12 education program, mentoring students on AI, quantum computing, and chip innovation. I've organized career development sessions at ASU, delivered technical talks in India, and served as President of TSMC's Employee Experience & Collaboration Club.

These experiences reflect not only my passion for engineering but also my belief in mentoring, advocacy, and building future-ready talent ecosystems.

I am available immediately, open to relocation, and would welcome the chance to discuss how my background can support your team's mission.

Sincerely,  
Varad Pramod Lad