

Alejandro Ng

HVACR and Liquid Cooling System Architect

📞 (813) 555-7249 ✉️ alejandrong@example.com 🔗 linkedin.com/example/alejandrong 📍 Tampa, FL 33602

SUMMARY

HVACR and **liquid cooling system architect** with **14 years** of experience creating **advanced thermal systems**, scalable product platforms, chillers, **coolant distribution units**, and energy efficient cooling solutions. Leads architecture development from customer needs and requirements definition through feasibility studies, trade off analysis, design reviews, manufacturing readiness, and product industrialization. Guides collaboration across mechanical, thermal, controls, electrical, manufacturing, and quality teams, keeping technical decisions connected to customer value and production needs. Presents complex engineering concepts clearly to customers and business stakeholders. Combines platform thinking with practical engineering analysis to improve scalability, reliability, and energy performance. Prepared to contribute senior architecture leadership, thoughtful collaboration, and disciplined product development within an advanced cooling organization.

EXPERIENCE

Principal Cooling Systems Architect

Thermal Innovation Technologies 📅 February 2018 - Present 📍 Tampa, Florida

Leads architecture for advanced cooling platforms, connecting customer requirements with scalable design decisions, cross functional engineering reviews, manufacturing transition, and production readiness. Supports technical communication with customers and business stakeholders while guiding platform analysis across mechanical, thermal, controls, electrical, manufacturing, and quality functions.

- Architected advanced cooling platforms using system requirements and thermal analysis for **scalable** product decisions.
- Defined system requirements through **feasibility studies**, supporting clear trade offs during architecture reviews.
- Guided **mechanical**, thermal, controls, electrical, manufacturing, and quality teams through coordinated **design reviews**.
- Supported **manufacturing** transition from concept through production, connecting engineering decisions with **product industrialization**.
- Presented customer focused technical solutions, helping business stakeholders evaluate platform value and implementation choices.
- Improved platform scalability through engineering analysis, strengthening reuse across advanced cooling product configurations.

PROJECTS

Liquid Cooling Platform Architecture 📅 2024

Directed architecture planning for a scalable liquid cooling platform, linking customer needs, system requirements, thermal analysis, cross functional reviews, and manufacturing readiness.

Advanced Chiller Feasibility Study 📅 2022

Evaluated chiller concepts through feasibility analysis and trade off reviews, balancing energy efficiency, manufacturability, platform scalability, and customer requirements.

LEADERSHIP & AWARDS

- Recognized for leadership in advanced cooling platform architecture and cross functional engineering reviews.
- Selected to present complex cooling solutions to customers and senior business stakeholders.

EDUCATION

Master of Science in Mechanical Engineering

University of Florida 🎓 GPA: 0 📅 2012 📍 Gainesville, Florida

Coursework: Thermal engineering, HVACR systems, product development, energy systems

CERTIFICATIONS

- ASHRAE Certification 📅 2018
- ASHRAE Continuing Education 📅 2024

TECHNICAL SKILLS

- **HVACR Systems:** HVACR, chillers, refrigeration systems
- **Liquid Cooling:** Liquid cooling platforms, coolant distribution units, cooling loops
- **System Architecture:** System architecture, platform architecture, requirements definition
- **Thermal Engineering:** Thermal engineering, thermal analysis, heat transfer
- **Product Development:** Product development, product industrialization, product platforms
- **Engineering Analysis:** Feasibility studies, trade off analysis, design reviews
- **Manufacturing Engineering:** Manufacturing readiness, production transition, manufacturability

- **Controls Engineering:** Controls systems, control architecture, control integration
- **Electrical Engineering:** Electrical systems, electrical architecture, power integration
- **Engineering Collaboration:** Mechanical engineering, quality engineering, cross functional teams

SKILLS

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|-----------------------|---------------------------|---------------------------|-----------------------------|
| • HVACR | • Thermal Engineering | • Feasibility Studies | • Product Industrialization |
| • Liquid Cooling | • Product Development | • Trade Off Analysis | • Energy Efficiency |
| • System Architecture | • Customer Communication | • Design Reviews | • Platform Leadership |
| • Chillers | • Executive Presentations | • Manufacturing Readiness | |

PROFESSIONAL AFFILIATIONS

- ASHRAE professional community participant, supporting continued learning in HVACR and thermal systems.
- Mechanical engineering community contributor, sharing practical perspectives on product development and cooling architecture.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST