Dean Kelley

Sales Engineer | **Aseptic Processing Specialist** | **ISPE & PDA Member**

Port Orchard, WA | *425-614-6257* | Dean.A.Kelley@gmail.com | linkedin.com/in/dean-kelley | github.com/deanak1987

Professional Summary

Technical Sales Engineer combining Mechanical Engineering expertise, Data Science capabilities, and pharmaceutical industry knowledge to drive consultative sales of aseptic processing equipment. Proven ability to translate complex User Requirement Specifications (URS) into compliant technical proposals that accelerate sales cycles. Active ISPE/PDA member with deep understanding of cGMP regulations (21 CFR Part 211) and validation requirements for sterile manufacturing environments.

Technical Skills

Pharma & Regulatory: Aseptic Processing, cGMP (21 CFR Part 211), FDA Compliance, User Requirement Specifications (URS), Cleanroom Design, Validation Protocols

Sales & Business: Technical Proposal Development (Proposify), Salesforce CRM, Epicor ERP, Consultative Selling, Stakeholder Management, Pre-Sales Support

Engineering & CAD: SolidWorks, Autodesk Inventor, AutoCAD, Manufacturing Systems, Process Design, FEA

Data & Analytics: Python, SQL, Machine Learning, Time-Series Analysis, Cloud Architecture (AWS/Docker)

Experience

Sales Engineer | *Automated Systems of Tacoma (AST), Tacoma, WA* *July 2025 – Present*

- **Directly supported $11.5M in total contract value (TCV)** across 7 major capital equipment projects in first six months of tenure, effectively bridging the gap between customer URS requirements and internal engineering capabilities
- Develop comprehensive technical proposals and **compliance matrices** for capital equipment sales and post-sale **Scope Change Requests (SCR)**, meticulously mapping customer User Requirement Specifications (URS) to system capabilities to verify compliance
- Participate in on-site customer visits and pre-sales technical reviews, serving as a technical resource to address specific inquiries on cGMP compliance and machine capabilities
- Execute the creation of **Epicor quotes** from signed proposals and pricing models prior to sales handoff, ensuring commercial accuracy and seamless transition to production
- Develop early-stage system layouts and 3D concept models using Autodesk Inventor to support project planning and visualize cleanroom integration

Privacy-Preserving ML Researcher | *UW Privacy-Preserving ML Group* *May 2022 - March 2024*

- Engineered a high-performance machine learning pipeline for **financial fraud detection**, achieving industry-leading accuracy (**AUPRC > 0.94**) and winning 2nd place in a federal privacy challenge
- Led resource analysis and feature engineering for large-scale data systems, contributing to a peer-reviewed publication on privacy-enhancing technologies
- Presented results to technical and non-technical stakeholders, effectively communicating complex data science concepts to diverse audiences

Mechanical Engineer | *Beck Engineering, Gig Harbor, WA* *June 2017 - August 2020*

- Executed full-cycle product development from concept through implementation, including physics-based modeling, FEA optimization, and detailed CAD design in SolidWorks
- Built and tested functional prototypes to validate design concepts, ensuring deliverables met customer specifications and quality standards

Education

University of Washington **Master of Science in Computer Science and Systems** | GPA : 3.84 *March 2024*
Focus: Machine Learning, Big Data Analytics, Software Development | Full-time graduate study (2022-2024)

Washington State University **Bachelor of Science in Mechanical Engineering** | GPA : 3.79 *May 2017*
Focus: System Dynamics, Thermal Systems, Finite Element Analysis, Engineering Statistics

Certifications & Professional Affiliations

Member, International Society for Pharmaceutical Engineering (ISPE) Pacific Northwest Chapter *January 2026 – Present*
Active participant in GAMP and Aseptic Processing Communities of Practice (CoP)

Member, Parenteral Drug Association (PDA) *January 2026 – Present*
Access to Technical Reports (TR) on sterile manufacturing and contamination control strategies

Certificate in GMP Fundamentals (Refresher) ISPE *December 2025*
*Technical training on FDA regulations for **Production Process Controls** and **Packaging/Labeling***

Outstanding Graduate Research Award School of Engineering and Technology, University of Washington *March 2024*
Recognized for excellence in graduate-level computer science research contributions

Engineer-in-Training (EIT) | *State of Washington* *March 2017*

Key Projects

Internal Product Configuration & Sales Enablement Tool | *AST* *September 2025 - October 2025*

- Architected full-stack POC product configurator (Flask/Node.js) to streamline technical sales process for aseptic processing equipment
- Automated generation of lightweight CAD models (.step files) from product specifications, enabling customers to validate cleanroom integration fit within hours instead of weeks
- Designed dynamic sales-facing interface managing complex product configuration data, reducing proposal preparation time and improving accuracy

Cancer Hormone Receptor Inference | *UW Master's Capstone* *April 2023 - March 2024*

- Collaborated with oncology researchers to develop predictive models for breast cancer hormone receptor status using Multiple Instance Learning (MIL)
- Engineered parallel-processing pipeline achieving **50x speedup** for tissue sample preprocessing on 64-core systems
- Achieved AUROC of 0.803 for estrogen receptor classification using PyTorch-based deep learning models

Publications

Kelley, D. et al. *Privacy-Preserving Membership Queries for Federated Anomaly Detection* *2024*

- Published in *Proceedings on Privacy Enhancing Technologies* (PoPETs), 2024(3), 186–201. Led resource analysis and contributed to feature engineering for financial fraud detection systems.