

CARSON SHELLENBERGER

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SUMMARY

Hands-on mechanical engineer with 20+ years in medical devices & robotics, driving innovative designs from concept to production. Adept at building and leading small, nimble teams that deliver.

CORE SKILLS

- Product Development: User needs, Product Requirements, DFX, FMEA, Risk Analysis
- Prototyping & Manufacturing: Machining, Molding, Sheet Metal, MIM, Additive, Laser Cutting, Extrusion
- Test & Automation: Custom test rigs, Allen Bradley/Koyo PLCs, sensors, vision systems
- Tools: SolidWorks, Onshape, Minitab, Microsoft, Python, Ladder Logic, Six Sigma Green Belt (NC State), Jira
- Leadership: Cross-functional team building, mentoring, strategic planning
- Compliance: Regulatory requirements, IEC standards, design control, project management

EXPERIENCE

Noah Medical – San Carlos, CA / Cary, NC

Principal Robotic Instruments Engineer | Jan 2023 – Present

- Led cost-reduction initiatives for a robotic bronchoscope system across design, packaging, and supply chain
- Developed performance and reliability improvements for cable/coil-pipe mechanisms
- Built automated test and manufacturing systems (Allen Bradley PLCs, HMIs)
- Mentored engineers and guided compliance with IEC standards for electrosurgical tools

Titan Medical – Chapel Hill, NC

Principal Engineer, Instrumentation | Aug 2020 – Jan 2024

- Managed 6-person team to develop robotic surgical instruments from concept to production
- Collaborated with surgeons and marketing to define product & engineering requirements
- Established & managed internal pilot manufacturing line and machine shop
- Led transition to scalable, cost-efficient production

Teleflex Inc. – Morrisville, NC

Principal Engineer, Surgical R&D | Oct 2015 – Aug 2020

- Designed next-gen Hem-o-Lok clip and applier
- Created test methods and fixtures for design verification and validation
- Developed high-volume automation systems and transferred products to OUS production

Solara Automation – Morrisville, NC

Principal Engineer | Jan 2015 – Oct 2015

- Designed custom automation systems across medical, industrial, and consumer markets
- Worked closely with clients to define and deliver tailored solutions

TransEnterix Inc. – Morrisville, NC

Director of Engineering | Mar 2008 – Nov 2014

- Early core team member for SPIDER and SurgiBot surgical platforms
- Led technical efforts from early concept to commercial launch

NeoGuide Systems – Santa Clara, CA

Senior Mechanical Engineer | Mar 2005 – Mar 2008

- Designed force transmission systems for robotic endoscopy

Stellartech Research – Santa Clara, CA

Mechanical R&D Engineer | May 2001 – Mar 2005

- Developed catheter-based RF systems and supported contract R&D

Palo Alto Medical Foundation – Palo Alto, CA

Mechanical Engineer | May 2000 – May 2001

- Supported spinal cord signal transmission research with Stanford physicians

EDUCATION

MS, Mechanical Engineering – Colorado State University

BS, Mathematics – Colorado State University

PATENTS

WO2013116869 A1 Mechanized multi-instrument surgical system

US20110251599 A1 Deflectable Instrument Shafts

WO2005067668 A3 Devices and methods for treatment of luminal tissue

US20120265214 A1 Locking mechanism for deflectable instrument shafts

US20110230723 A1 Active Instrument Port System for Minimally-Invasive Surgery

WO2009100368 A1 A segmented instrument having braking capabilities

US20130281924 A1 Segmented instrument shaft with anti-rotation features

PORTFOLIO

For a more detailed look at my work experience follow the link or scan the code

<https://cshellenberger.github.io/portfolio/>

