Charles Sizer IV

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Summary

Multidisciplinary. Mathematician. Engineer. Programmer. Manager.Objective: Advance my career in a position that lets me emphasize data driven problem solving.

Charles's career has focused on transitioning products with unique processing challenges from development into production. Uses iterative, constructive method to convert raw, proof-of-concept production lines into automated systems integrated with higher levels of business planning and tracking. Strong track record of troubleshooting enabled by deep understanding of information systems, electrical systems, software and fluid processes. Solves complex problems using proven data driven approaches, building models to evaluate steady-state and transient phenomena. My favorite tasks are tasks which can, with sufficient thoughtfulness, be automated.

Experience

Dairyvative Technologies — Reedsburg & Sheboygan, WI

Director of Technology — *2015–Nov 2018*

Worked on the design, installation, validation and commissioning of a new low-acid canned food manufacturing facility. The process was the first process ever approved by FDA using an enzymatic process for a low-acid food. Designed and programmed an automatic control system that was compliant with 21CFR11 for a registered FDA, Grade "A" dairy in Wisconsin.

- Key management
  - Participated in strategic decision making
  - Hired and managed production team
  - Trained and developed employees
  - Drove production efficiency
  - Managed production budget
- Data Analysis
  - Generated robust, multivariate datasets from physical processes in production and the laboratory.
  - cleaned data
  - ran time-series analysis to identify critical variables
  - synthesized models to improve process controls
- Led Quality Program development
  - Wrote policies to comply with both prescriptive and open ended regulaions
  - Wrote detailed intermanl policies to comple with prescriptive regulations
  - Identified hazzards and appropriate mitigations, wrote programs to ensure employee and customer safety
  - Identified regulations pertainant to novel products,
  - Stayed current with agency bulletins to understand enforcement agency thinking on important issues
- Relevant Regulations
  - Grade "A" (ATCP 65)
  - Sanitation and Good Manf Practices (ATCP 70 & 21CFR110)
  - Low Acid Canned Food (21CFR113)
  - food production procedures, defect/deviation handling, reporting and record keeping.
- Oversaw implementation of Quality program
  - trained staff
  - interfaced with enforcement agencies
  - Coordinated interactions with inspectors during facility licensing process
  - managed digital records storage under 21CFR11

Cambrooke Foods (now a division of Ajinomoto) — Ayer, MA

Product Development Specialist — *2012–2015*

Designed, assembled and commissioned food processing lines for a medical foods company. The lines included a hot-fill line for high-acid beverages and an AlfaLaval low-acid processing line for packaging medical foods on an aseptic Tetra Pak TPA/19. Member of the team that assembled and implemented the HACCP plan. Medical foods are considered the highest risk food category by the FDA since the patients are required to adher to a strict diet consisting of only medical foods. As such, the facility was the first facility inspected under the Food Safety Modernization Act and passed the inspection with no adverse findings.

Accomplishments

- Formulated medical food product meeting guidelines for enteric nutrition
- Iterated design of equipment and thermal process to deliver enteric nutrition
- Formulated a protein enhanced rehydration beverage
- Designed process to gently sterilize protein and maximize shelf-life
- Managed small beverage production team

Pilot Aseptic — St. Charles, IL

Technician — *June 2010–2012*

- Tested effects of various thermal processes on clients' product formulations.
- Implemented necessary equipment modifications
- Maintained equipment and facility.
- Extensive on-the-fly trouble shooting of Alfa Laval VTIS & FLEX systems
- Created numerical heat-penetration model used by Pepsi Co. through present day

Education

Illinois Institute of Technology — Chicago, IL

Studied Applied Mathematics — *2004–2007*

Focused on discreet methods

Skills

Technical specialties: Python programming, familiarity with SQL/ZPL/LaTeX. Ignition SCADA platform. Data analysis in JupyterLab using Numpy, Scipy and Pandas.

Interests

Non-exhaustive and in alphabetical order: cooking, computer security, hiking, kayaking, machine learning, rocket science, space exploration, sustainability