Kurt C. Jacobson

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EDUCATION

Kennesaw State University, Marietta, Georgia, USA

- B.S. in Mechanical Engineering Technology — Aug 2013 – Dec 2016
  - Cumulative GPA: 4.0 / 4.0
  - Focus: Manufacturing, Engineering Graphics
- Minor in Nuclear Engineering — Jan 2015 – Dec 2016
  - Focus: Radiation Detection and Reactor Thermodynamics

RESEARCH EXPERIENCE

Center for Nuclear Studies, Kennesaw State University

- Undergraduate Research Project — Jun 2016 – Apr 2017
  - Project: Alpha Radiation Detector Development And Testing Under Various Conditions
  - Supervisors: Dr. Eduardo B. Farfan and Dr. Sandip Das
  - Focus: Development of a precise and low-cost Chang-Rosenblum type alpha particle detector.
  - Presented at the National Conference on Undergraduate Research, University of Memphis, Apr 6-8, 2017

WORK EXPERIENCE

KCJ Engineering, Atlanta, Georgia, USA

- CNC Control Interface, Open Source Project — Jul 2017 – Present
  - Development of modern, highly configurable user interface for LinuxCNC machine controler.
  - Widget based GUI with built-in screen editor for easy on-the-fly customization.
  - Scripted in Python and supports plug-ins for easy customization and extension.
- 1983 Bridgeport Boss 10 CNC Retrofit, Tubular Fabrication LLC — Jul 2017 – Nov 2017
  - Replaced original 1983 control with a modern Real-Time Linux based control.
  - Utilized MESA FPGA cards to interface existing servos to new control.
  - Greatly increased reliability and capability of the machine.
- 1971 Bridgeport Mill Restoration, Tubular Fabrication LLC — May 2017 – Jun 2017
  - Complete tear down and restoration to like new mechanical and aesthetic condition.
  - Included production of various damaged/missing parts.
- Bed Mill CNC Conversion — Dec 2016 – Apr 2017
  - Used CAD and simulation software to design high performance axis drives to fit existing castings.
  - Sourced custom ballscrews and servo drives from overseas, and machined all additional components.
  - Installed and configured modern Real-Time Linux based CNC control.
- CNC Plasma Tubing Notcher Development, Tubular Fabrication LLC — May 2015 – Aug 2015
  - Developed a novel, semi-automatic pneumatically actuated, precision large-bore chuck.
  - Created dedicated software for calculating cut path trajectory and generating NC code.
  - Fabricated a functional prototype and tested in production environment.
  - Achieved significantly increased accuracy of notches, and reduced cycle times by more than 75%.

Kennesaw State University, Marietta, Georgia, USA

- Laboratory Manager, KSU Center for Nuclear Studies — Dec 2015 – Apr 2017
  - Managed liquid nitrogen supply for nuclear lab, including ordering and coordinating delivery.
  - Maintained five state-of-the-art radiation detectors and all associated equipment.
  - Tracked usage and maintained inventory of more then 25 radiation sources.
  - Coordinated and ran 4-8 undergraduate reactor simulation labs per semester (Spring, Summer, Fall).
- Teaching Assistant, KSU Department of Mechanical Engineering — Jan 2016 – Dec 2016
  - Graded all homework and exams for multiple upper level Mechanical and Nuclear Engineering courses.
  - Presented and promoted the Nuclear Engineering lab on multiple occasions to industry and university boards.
  - Set up equipment and assisted professors in running the Radiation Detection and Measurement labs.
- Supplemental Instruction Leader, Southern Polytechnic College of Engineering — Aug 2015 – Dec 2016
  - Pioneered use of Supplemental Instruction (SI) to improve pass rates in upper level engineering courses at KSU.
  - Developed worksheets/presentations and created a website to aid in presenting material to students.
  - Enhanced student engagement, improved grades, and reduced attrition rate within the Strength of Materials courses.

AWARDS & SCHOLARSHIPS

Clarence Arnston Award, KSU Mechanical Engineering Technology Department — Dec 2016
- Outstanding Senior in Mechanical Engineering Technology 2015 - 2016.

Engineering Technology Student of the Year, Georgia Engineering Alliance — Feb 2016

- Awarded at the Georgia Engineers Week Awards Gala.

PROFESSIONAL AFFILIATIONS & ACTIVITIES

▪ American Nuclear Society, Member	Feb 2017 – Present
▪ Society of Manufacturing Engineers, Member	Aug 2016 – Present
▪ American Society of Mechanical Engineers, Member	Oct 2015 – Present
▪ Kennesaw Nuclear Society, Vice Present	Jan 2016 – Dec 2016

PROFESSIONAL CERTIFICATIONS

▪ Certified Manufacturing Technologist, Society of Manufacturing Engineers	Dec 2016 – Dec 2019
▪ Certified SolidWorks Associate, DS SolidWorks Corporation	Nov 2014 – Jan 2018

SKILLS Python, Solidworks, HSMWorks, MATLAB, NI LabVIEW, Microsoft Office

INTERESTS & HOBBIES Industrial Automation, Precision Machining, Open Source Software, Linux, Woodworking, Hiking