

BENJAMIN KRUG

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SKILLS

Strong mathematical and physical reasoning, with experience in computer programming and scripting. Proficient with C++ and Python, and experienced in web languages such as CSS and HTML. Interests include machine learning, encryption algorithms, and remote automation techniques.

WORK EXPERIENCE

Quality Inspector | Accu-Precision, Inc

- Inspected and approved parts machined to the highest standards possible, in order to satisfy the requirements of aerospace, military, and other tight-tolerance contractors.
- Approved machined parts using optical comparators, height gages, CMMs, and other precision-calibrated devices for fast and reliable data acquisition.
- Quickly mastered measurement and documentation procedures to ensure customers received the highest quality products in the shortest timeframe, with documentation always organized to customer satisfaction.
- Performed inspections based on ISO 9000, AS 9100, and other high precision standards.

Quality Production Operator | Vestas Blades Americas, Inc

2015 - 2017

- Responsibilities included the quality inspection and production of 54m turbine blades.
- Took responsibility for every stage of the build, infusion, and gluing processes, focusing on defect prevention and effective use of repairs.
- Documented build dimensions and detailed all repairs performed on each blade, evaluating with custom gages as well as industry-standard equipment such as calipers, thermal imaging cameras, and go/no-go gages.
- Trained and supported production and quality team members to build a more quality-oriented production culture.

Programmer | CNE Creative Enterprises

2015 - 2016

- Responsibilities included software programming for embedded control systems using BASH, Python, and C++. Developed software for Arduino, Raspberry Pi, and other custom hardware platforms.
- Developed, tested, and refined custom software for the testing of automated vending machine systems to specifications given by the customer.
- Implemented and simplified algorithms for interfacing with measurement devices and controlling the actions of the vending machine accordingly.
- Used HTML, CSS, MySQL while designing and managing various websites both in-house and for other clients.
- Evaluated existing database information and developed new scripting to troubleshoot and solve existing database errors.
- Routinely worked directly with hardware systems using oscilloscopes, digital volt meters, and other standard electronic equipment.

Laboratory Research Assistant | University of Colorado

2014 - 2015

- Studied the optical and mechanical effects of temperature change on photo-polymerized liquid crystal particles using high powered UV lasers.
- Used glass cleaning and preparation techniques to optimize the alignment of nematic colloidal liquid crystal material for microscopic observations under polarized light filters.
- Explored different material, optical, and thermal procedures to troubleshoot material failures of liquid crystal samples, using custom heating plates and varying heating and cooling techniques to eliminate potential preparation errors.

Aerial Fireworks Pyrotechnician | Firestorm Pyrotechnics, Inc.

2010 - Present

- Fireworks display operator in charge of the setup, loading, fusing, wiring, and execution of professional fireworks displays.
- Coordinated the handling of heavy equipment and flammable products onto and off of the display field.
- Developed processes to the setup and fusing of devices, providing feedback to other pyrotechnicians on fusing and setup techniques.
- Reduced performance failures by 90% during first year of coordinating processes on field.
- Provided ballistics calculations for a team of pyrotechnicians to earn the Guinness World Record for the largest firework ever created.

EDUCATION

University of Colorado at Boulder - *B.A. in Physics and Mathematics*

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