

Brandon J. Chen

brandonjianchen@gmail.com / portfolio: raisinbran.github.io/design

EDUCATION

Northwestern University, BS Design and Manufacturing Engineering / 2013-2017

Relevant courses: Energy Sustainability, Human-Centered Product Design, Intellectual Property & Innovation, Interdisciplinary Design Projects, Operations Research

WORK EXPERIENCE

Project Engineer / December 2018-Present

Rail Surveyors and Engineers, Inc. / Belmont, CA

Assist senior engineers with project planning and research, data processing and mapping, report preparation, engineering drawing production, and field support; Delegate tasks to other engineers as needed

- BART friction rail modifier: Digitizing all track alignments into CAD, for analysis of future friction applications to reduce wheel slippage
- Caltrain PTC (Positive Train Control) implementation: Updated signal system in-house and field drawings; Represented client as testing procedures witness for contractors
- Santa Clara VTA light rail: Produced and managed documents and drawings for a study on future signal and SCADA system upgrades
- Metrolink Redlands extension: Produced alignment & aerial drawings, and collected state gov't crossings data
- Explored and introduced more efficient CAD methods, such as naming and numbering automation

Design Engineer Intern / June-September 2016

Filtran LLC (Filtration Group) / Des Plaines, IL

- Decreased development time of new products by 18%, and improved concepts using computer-modeled tests
- Reduced machining and setup time of fixtures for performance qualification tests and vibration tests by 60%
- ISO-9000, ISO-14001, TS-16949 certified

Project Design Intern / June-September 2015

Segal Design Institute / Evanston, IL

- Co-lead of floor outlet cover replacement: Removed tripping hazards; managed sourcing and prototyping
- Machinist and electronic assembler for infant warming pad, presented at University of Ibadan medical conference

Ad Production Artist / September 2013-June 2017

The Daily Northwestern / Evanston, IL

- Set up the newspaper ad layout and formatted media on a daily deadline, often filling in for supervisor
- Revised reference manual to speed up training and eliminate dependence on in-office expertise

DESIGN PROJECTS

“Bolt” Breadfruit Peeler Design Capstone / January-July 2016

Designed motorized peeler that reduced breadfruit-to-flour processing time and labor for Jamaican farmers; Increased per-person throughput to 500+ per shift, reduced training time, and improved peeling safety

Manufacturing Engineering Capstone / March-June 2017

Optimized wrench product assembly process, designed fixtures, and conducted root cause analyses

SKILLS

Product Design: Human-computer interaction, industrial design, life-cycle analysis, mechanical engineering, project management, UX research, web design; C++, CSS, HTML, JS

Computer-Aided Design: AutoCAD, Civil 3D, MicroStation; Creo Pro/E, Siemens NX, SolidWorks, Sketchup

Software: Adobe Illustrator, InDesign, Photoshop, CorelDraw; ArcGIS, Microsoft Office, Minitab

Machine Shop: 3D printing, injection molding, milling, casting, sheet metal working

Manufacturing & Statistics: Design of experiments, GD&T, lean manufacturing, materials selection

Writing: Creative writing, journey mapping, technical writing