Brandon J. Chen

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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

Design Engineer / 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

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

Design Engineer Intern / 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

Design Intern / 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 / 2013-2017
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 / 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 / 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