

# 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, Operations Research

## WORK EXPERIENCE

**Design Engineer Intern** / June-September 2016

Filtran (Filtration Group), Des Plaines, IL

- Decreased development time of new products by 18%, and improved concepts using computer simulation such as CFD (computational fluid dynamics) and FEA (finite element analysis)
- 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** / June-September 2015

Segal Design Institute, Evanston, IL

- Co-lead of floor outlet cover replacement: Removed tripping hazards in the building; managed sourcing and made mockups leading to the final prototype
- Machinist and electronic assembler for infant warming pad, presented at University of Ibadan medical conference
- Modeled new North Garage car team space to assist the engineering school marketing team

**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 manual to reduce training period by 1 week and eliminate dependence on in-office expertise, and to increase artist productivity by 10%

## DESIGN PROJECTS

**Manufacturing Engineering Capstone** / March-June 2017

Optimize wrench assembly process in a factory environment

- Designed riveter fixtures, conducted root cause analyses, and optimized batch process time from 1 unit per 10 minutes to 7 units per 30 minutes

**“Bolt” Breadfruit Peeler Design Capstone** / January-June 2016

Motorized peeler that improves breadfruit-to-flour processing for Jamaican farmers

- Increased throughput to 500+ per day, reduced training time from several weeks to 1 day
- Ideated new concepts and kept team focused in the field, reviving the project after encountering outdated documentation, surveys, user testing
- Iterated improvements using FMEA (failure mode effect analysis)

## SKILLS

**Product Design:** Human-computer interaction, industrial design, life-cycle analysis, mechanical engineering, UX research

**Computer-Aided Design:** Creo Pro/E, Siemens NX, SolidWorks, Sketchup

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

**Machine Shop:** 3D printer, CNC mill, injection molding, laser cutter, lathe, manual mill, sand casting, sheet metal, water jet

**Manufacturing & Statistics:** Design of experiments, drafting, GD&T, lean manufacturing, materials selection, production planning

**Writing:** Creative writing, journey mapping, technical writing