

NICK BADGER

http://www.nickbadger.com Oakland, CA
nbadger1@gmail.com (510) 995.0042

WORK EXPERIENCE

- **MECHANICAL ENGINEER II, BRECHTEL MFG, Hayward, CA:** *08/2013 – Current*
Supervised acquisition, design, and integration of scientific instruments throughout the full product lifecycle. Initiated and implemented new PLM strategies, including the adoption of git as the primary PDM system. Created python library for hardware control in embedded Linux.
- **INDEPENDENT CONTRACTOR / CONSULTANT:** *08/2010 – 04/2014*
Developed automation equipment, provided agile hardware oversight for a consumer robotics development effort, and performed drivetrain component design / analysis for consumer fitness equipment.
- **LAB ASSISTANT, CASE WESTERN RESERVE UNIVERSITY, Cleveland, OH:** *08/2008 – 09/2012*
Facilitated lab expansion at newly-created think[box] makerspace; designed and fabricated many small projects, assisted and supervised students, taught manual and CNC machine operation and programming.
- **ENGINEERING INTERN, NOTTINGHAM-SPIRK, Cleveland, OH:** *05/2011 – 08/2011*
Researched, developed, and machined commercial prototypes for various clients, including substantial revision and management of externally-contracted work.

OTHER PRODUCTION AND MANAGEMENT EXPERIENCE

- **CWRU AUTONOMOUS LAWNMOWER TEAM** *06/2011 – Current*
As the sole mechanical engineer, designed and machined the majority of the robot and provided software integration support. Simultaneously pursued long-term goal of a separate agile development platform. Currently serving as alumnus adviser and assisting team transition to Beaglebone Black platform.
- **CWRU BAJA SAE** *08/2009 – 06/2013*
Designed, analyzed, and machined rear outboard suspension for three consecutive years, incorporating significant iterative knowledge into the assembly, and provided extensive engineering support to drivetrain design. Helped manage the team as fabrication lead, design lead, co-captain, and finally graduate adviser.
- **PARKER-HANNIFIN HUMAN-HYDRAULIC HYBRID VEHICLE COMPETITION** *10/2011 – 04/2014*
Started the CWRU competition team, providing logistics, operations, and organizational management for a wholly new endeavor, while maintaining primary responsibility for the design, analysis, and manufacturing of the vehicle on our 2-man team. After 1-year hiatus, served as graduate adviser to the next CWRU team.
- **CWRU FOOTLIGHTERS STUDENT-RUN THEATRE COMPANY** *9/2008 – 05/2013*
Directed and produced *Sweeney Todd*, managing a team of roughly 50 production leads, actors, stagehands, and logistical assistants. Managed stage operations for *RENT*, coordinating backstage physical movement of 30-person cast, and crew in real time. Designed and decorated *Avenue Q* set.

SKILLS AND EDUCATION

- **CASE WESTERN RESERVE UNIVERSITY: Cleveland, OH**
M.S. ABD, Mechanical Engineering
B.S., Mechanical Engineering
B.A., German
- **ENGINEERING SOFTWARE:**
Primary experience in Solidworks, Python, Mastercam, SW Simulation. Secondary experience in Pro/Engineer, Surfcam, COMSOL Multiphysics, MATLAB, Simulink, Java, PHP, CSS, C/C#
- **FABRICATION:**
6 years experience manual fabrication, including mill, lathe, MIG and limited TIG; 5 years experience CNC fabrication, including 3- and 4-axis mill, lathe, laser cutter, plasma cutter, and 3d printers
- **MISC:**
Personal AWS and DigitalOcean web deployments, on Ubuntu/nginx/uWSGI/postgres stacks
Fluent in German
Former Ohio Firefighter-II, EMT