

# WILLIAM R. CARUSO

## Curriculum Vitae

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## PROFILE

Young and dynamic engineer with a unique skill set adapted from a diverse background of educational and professional experiences. Self-managing and comfortable in environments with undefined problems bounded by time and budget constraints. Excellent communicator with a wide spectrum of audiences and work scopes. Interested in project-oriented design and engineering in the **energy** and **sustainable development** arena with an emerging interest and sleight in entrepreneurship.

## EXPERIENCE

### Systems Design Engineer, Feed Resource Recovery Inc.

Boston, MA 2008-2009

- Second employee hired at a waste-to-energy solutions start-up company
- Conducted research on anaerobic digestion industry through literature, facility tours, industry conferences and through establishing relationships with vendors and industry professionals
- Collaborated with biologist and lead engineer to design, fabricate and operate prototype system within \$50k budget constraint
- Co-managed engineering firm in design and construction of a \$500k alpha system based on proprietary integration of technology
- Managed alpha system operations and experimentation. Recorded, analyzed and reported data; presented to corporate customers
- Communicated with vendors and industry professionals to produce system architecture document for planned \$18M full scale facility
- Participated in business development meetings, customer relations and development of company core values
- Identified internal communication shortcomings and instituted company intranet utilizing wiki-, blog and twitter style tools
- Participated in interviewing, evaluating, hiring and managing new employees

### Design Engineer, Design Communications Ltd.

Boston, MA 2007-2008

- Collaborated with project managers, graphic designers, industrial design engineers, fabricators, installers and vendors as engineer for signage projects ranging \$150k-250k
- Design sign and architectural elements internal structure, lighting elements and display based on architectural drawings
- Provided AutoCAD 2D/3D shop drawings with attention to design for fabrication and installation; and meeting local structural safety, UL, and NEC codes
- Necessary fluency primarily with AutoCAD 2D/3D and Adobe Illustrator as well as MathCAD and Microsoft Excel
- Design engineering team included individuals from Industrial Design and Mechanical Design backgrounds

## EDUCATION

### Worcester Polytechnic Institute

Worcester, MA 2007

**Bachelor of Science in Mechanical Engineering, Concentration in Design**  
Graduated with Distinction (Cum Laude), GPA: 3.41

### Coursework

CORE MATH: Calculus, Differential Equations, Linear Algebra

CORE SCIENCE: Physics, Quantum Physics, Chemistry, Material Science

ENGINEERING: Experimental Methods, Statics, Dynamics, ThermoDynamics, Fluid Dynamics, Heat Transfer, Kinematics of Mechanisms

ENG. DESIGN: Advanced design project (Gillette), Design of Mechanisms, Advanced CAD and FEA

ARTS: English Literature, Classical Music Theory, Jazz Theory, Jazz History, History of American Popular Music, Computers/Synthesizers in Music

### Project Work

ARTS: Digital Effects and the Evolution of Music (2005)

SOCIETY: Clean Energy Research (2006) (see projects sections below)

ENGINEERING DESIGN: Razor Drop Test (2007) (see projects)

CAPSTONE: High-Speed Bottle Laner (2007)

### Clubs / Memberships

COFFEEHOUSE: Band booking and stage setup for on-campus folk music concerts

GAIA: Helped setup campus eco-events and recycling program

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## PROJECTS

### **Razor Drop Testing Device, Gillette Inc.**

Worcester, MA 2007

- Collaborated with 20 member team and lead engineer to produce a system to repeatably drop, measure and record impact forces on Gillette's full line of razors within \$10k budget
- System designed, fabricated, tested and presented to Gillette within 7-week deadline

### **High-Speed Bottle Laner, E&J Gallo Wineries**

Modesto, CA 2007

- Collaborated with Gallo Industrial, Manufacturing and Electrical engineers and vendors to design, prototype and test mechanism for use on full-scale production lines
- Managed project from definition, conceptual through detailed design, fabrication, testing and cost/benefit analysis within \$15k budget
- Utilized complex cam design, servo motion control and rapid prototyping

### **Clean Energy Research, Merton Dept. of Environment and Regeneration**

London, England 2006

- Conducted research on clean energy technology for the Chief Environment Officer and Oxford University
- Presented tools and recommendations to Merton policy makers for integration of technologies with existing urban infrastructure
- Czech Republic Department of Regional Development adopted a tool developed

## CONTINUING COURSEWORK

### **Fundamentals of Engineering Exam, NCEES**

Boston, MA 4.2009

### **Anaerobic Digestion of High Strength Industrial Waste Water, Marquette University**

Milwaukee, WI 9.2008

## SKILLS

CAD: ProE, SolidWorks, AutoCAD

FABRICATION: CNC and NC mill and lathe, Rapid Prototyping, Stick/MIG welding, plumbing, PLC programming, electrical (1/3 Ø), basic electromechanical systems

SOFTWARE: MS/Mac standards, MathCAD, LabView, MS Visio, Adobe Illustrator, Adobe Audition, Pro Tools, GE Fanuc SCADA

WEB: Basic web design styling and layout, basic HTML and CSS

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PERSONAL: Guitar, Music Composition, Surfing, Snowboarding, Mtn. Biking, Hiking, Yoga, Capoeira, Cooking