

# Michael F. Egan

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- EDUCATION**      **Cornell University**, College of Engineering, Ithaca, NY  
School of Mechanical and Aerospace Engineering
- Masters of Engineering received in May 2007 (GPA: 3.60)  
Major in Mechanical Engineering, Minor in Systems Engineering, Dean's List
  - Bachelor of Science received in May 2006  
Concentration in Aerospace Engineering, Gertrude Spencer Prize, Dean's List
- RELEVANT COURSES**      Feedback Control Systems, Applied Dynamics, Robotics, Spacecraft Engineering, System Dynamics, Project Management, Materials, Finite Element Analysis, Statics, Dynamics, Thermodynamics, Mechatronics, Mechanical Synthesis, CS – MATLAB, Fluid Mechanics
- CURRENT EMPLOYMENT**      **Research and Design Specialist / CAD Analyst**      May 2007-Present  
*Leathers & Associates*, Ithaca, NY
- Design innovative community-built playground components optimizing safety, cost, aesthetics, and play value
  - Coordinate with suppliers to assess the feasibility, cost, and efficiency of any potential components
  - Draft unique playground designs in AutoCAD while ensuring that ASTM and CPSC standards are met
  - Develop and support the AutoCAD user interface to optimize drafting ease and efficiency
  - Headed the design of several exciting new components: The Climbinator and The Climbing Forest
  - Headed the design of the entire playground in Vallejo, CA as well as consulted on-site during construction
- WORK EXPERIENCE**
- Playground Design Intern**      Summer 2006  
*Leathers & Associates*, Ithaca, NY
- Rewrote the custom AutoCAD user interface to take advantage of new data formats
  - Maintained and reprogrammed design software to enhance efficiency
- Engineering Research Assistant**      Summer 2005  
*Cornell University*, Ithaca, NY
- Worked directly under Engineering Professor Michel Louge testing published granular flow theories
  - Ran experiments on granular flow and impact restitution using slow-motion cameras and microgravity simulations in order to calculate the effects of gravity on the flow dynamics
- PROJECTS**
- Invented, designed, and oversaw installation of The Climbinator**      2008-2009
- Independently conceived of a unique climbing experience involving both rigid and flexible climbing members
  - Deconstructed the typical climbing wall to create a new aerial space consisting of several suspended climbing surfaces for children of all ages to explore and approach in new and creative ways each time they traverse it
  - Considered safety, visibility, motion, child fitness, and play value while conceptualizing The Climbinator
  - Directly coordinated the design and manufacturing of the individual parts with our out-of-town contractor
  - Modeled the original idea in Unigraphics NX6 to offer suppliers and communities a graphic 3-D representation
  - Built the world's first Climbinator in Vallejo, CA; many more are being constructed across the country
- Masters of Engineering Project: The Rocking Boat**      2006-2007
- Helped design the "Rocking Boat" playground component as a consultant for Leathers & Associates design firm
  - The Rocking Boat is a handicapped accessible component that gives children the sensation of being on the ocean by using the center of rotation of a suspended platform to simulate the center of buoyancy of a ship on the water
  - Used Lagrange's equation and the method of virtual power on a 4-bar model to analyze how the dimensions of the component would affect the natural frequency of the apparatus and the implications of different frequencies
  - The Rocking Boat is now in playgrounds across the country and slated to be built in many more
- Senior Design Project: The Newton's Cradle**      2005-2006
- Designed an experimental apparatus similar to "Newton's Cradle" to test published ideas about collision theory involving the reflection of shock waves travelling through adjacent objects and the conservation of energy
  - Modeled the apparatus in Solid Works and fabricated it independently in the machine shop
- SKILLS**
- Proficient in AutoCAD, Alias Design, Solidworks, Unigraphics, MATLAB, Microsoft Office, Windows, OS X
  - Able to use the machine shop and wood shop