

# MICHAEL YATES

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**Human Systems Engineer** in the aerospace industry with exceptional collaborative and interpersonal skills; dynamic team player with well-developed written and verbal communication abilities. **Design Engineer** with demonstrated success creating and launching commercial and consumer grade products for domestic and international markets. Highly skilled in developing innovative products which focus on use while reducing product costs, and driving overall unit sales. Accustomed to performing in deadline-driven environments with an emphasis on budget requirements. Numerous patents issued.

## Qualifications

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- Georgia Institute of Technology, B.S. Industrial Design
- 13 years experience in commercial and government sectors
- Capable of taking on new challenges in dynamic environments
- Product design
- Supportability studies
- Form language development
- Anthropometry studies
- Cross-functional team player
- Systems engineering
- Usability / Operability studies
- 3D Modeling, Rapid prototyping
- Technically adept
- Fast learner
- Requirements engineering
- Project management
- Traditional model fabrication
- Results oriented
- Solid communicator

## Professional Experience

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### **Senior Human Factors Engineer, 2009-Present**

*NASA - Marshall Space Flight Center, ERC, Incorporated - Huntsville, Alabama*

- Human Factors lead to Main Propulsion System and Thrust Cone of the Ares 1 Crew Launch Vehicle, ensuring Design teams understand human factors requirements decomposition.
- Review design specifications to ensure requirements compliance.
- Perform worksite assessments to increase productivity and reduce task time of ground operations.
- Verify ground crew can perform nominal tasks such as inspections and remove and replace flight hardware prior to launch at the Vehicle Assembly Building and Launch Pad.
- Deliver concepts and/or feedback to NASA Design Team based on analyses.
- Develop design concepts for Internal Access Ground Support Equipment.
- Mentor to 3 college and high school interns to promote their organizational skills, train them in the rapid prototyping lab, and instill office etiquette.

### Major projects

- Built full-scale mockups, populated the Thrust Cone of the Ares 1 and conducted a Worksite Assessment.
- Led assessments of Thermal Blanket closure method for Final Layout Review. Built mockups, conducted time and posture studies, and evaluated the NASA Design Team's proposed design.
- Recommended design solutions, saving the program money and time by reducing the amount of work required to perform nominal tasks.
- Created mockups of Loose Equipment Restraint System for the Instrument Unit and Interstage, then presented concepts to systems engineers and Integrated Product Team.

### **Commercial Design Engineer, 2003-2008**

*PlayCore, Incorporated - Fort Payne, Alabama*

- Developed products for a playground equipment manufacturer. Pushed ideas from concept and ideation through prototype to manufacture.
- Actively led ideation sessions and developed ideas with fellow Design Team members.
- Presented concepts to Marketing department and management for early, mid, and late design reviews using techniques such as pencil sketches, marker renderings, story-telling, clay models, foam models, 3D CAD models, and Rapid Prototyping.

## MICHAEL YATES' resume (continued)

- Applied anthropometric data and information gathered from subject matter experts, and analyzed how children play in order to design age-appropriate playground equipment.
- Reviewed production drawings for accuracy.
- Selected materials and production methods. Ensured their suitability for manufacturing and product function.
- Managed project interfaces between industrial design, supply chain engineering, marketing, and manufacturing.
- Performed first pass Finite Element Analysis (FEA), ensuring that designs met required safety factors.
- Defined and maintained form language for key product lines.
- Authored product specifications.

### Major projects

- Designed new lines of rotomolded playground slides, cable climbing nets, injection molded tactile activities, and early childhood product line enhancements.
- Engineered freestanding items including seat spinner (patented), and standing see saw (patent pending.)
- Led a Kaizen event resulting in process improvement and part quality, thus reducing \$130K in annual expenses.

### Consumer Design Engineer, 2001-2003

*Swing-N-Slide, Incorporated - Fort Payne, Alabama*

- Designed a line of Clifford blow molded products licensed from Scholastic, Inc.
- Developed injection molded toddler car swing, blow molded rock wall, and wooden play structures.
- Created concept packages for presentations to buyers at Home Depot, Lowes, Toys 'R Us, and others.
- Developed core products that magnified sales. Increased planogram to showcase new products.

### Design Engineer, 1996-2001

*GameTime, Incorporated - Fort Payne, Alabama*

- Designed a climbing wall system (patented), an 11-foot tall Dragon Climber (patented), a molded spring rider, and a modular slide--magic bullet products that transformed the image of GameTime, founded in 1929, and doubled annual unit sales of the company from \$50M to over \$100M.
- Developed a modular molded play system (patented.) Created system layouts and authored instruction manuals.

### Specialty Skills

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- Pro/E Wildfire 3.0, Delmia Human Option, Process Engineer, Autodesk Inventor, Mechanical Desktop, AutoCAD, SketchUp 7
- Adobe Photoshop CS3, Illustrator CS3
- Stratasys Insight (Rapid Prototyping software for fused deposition modeling)
- Scaffold construction and fall protection certification
- Areas of design experience: rotational, injection, and blow molding, thermoforming, rapid prototyping, numerous plastics, rubber, metal fabrication, machining, and laser cutting.

### Awards and Honors

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#### U.S. Patents

D548, 473 Playground seat	D455, 806 Combination balance beam and seat
D449, 363 Play deck	D438, 928 Roof cap for playground deck
D435, 622 Playground deck	D430, 255 Decorative barrier panel for a playground
D427, 271 Playground stairs	D432, 616 Playground structure panel
D419, 633 Playground climbing apparatus	D415, 545 Playground dragon head
Utility patents pending Standing see saw	Spring limiter for a playground teeter totter

Eagle Scout, 1988

### Education

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**Georgia Institute of Technology**, B.S. Industrial Design, Atlanta, Georgia, 1996--Dean's List

## References

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"I led the Upper Stage Human Factors Engineering Task at NASA Marshall Space Flight Center. Michael supported that task as lead representative to several subsystem design teams. As someone new to the NASA engineering field, Michael quickly learned how to navigate the specific cultures, execute the processes, and understand the technical challenges. His initiatives for conceptual design and direct design assessment and input were outstanding. He also was responsible for reviewing and ensuring proper requirement allocation to specifications in his assigned subsystem. I was very impressed with Michael's performance and do not hesitate to recommend him."  
--Jennifer Blume, Human Factors Specialist, Jacobs Technology, managed Michael at ERC

"Michael is a talented and creative designer who adds a strong level of originality to his projects. He has been a very supportive, hard working employee who has contributed significantly to our design team at PlayCore."  
--Bob Farnsworth, CEO, PlayCore, Inc.

"Michael Yates is a talented designer, not only in originality and creativity, but in interpreting the technical specifications, budgets, and requirements of a product. He brings a fresh approach to design and is a pleasure to work with."  
--Anne-Marie Spencer, Director of Marketing, GameTime, Inc.

"As a playground design and safety consultant I have worked with hundreds of designers over the past twenty five years. Michael Yates is one of the most talented and creative individuals that I have had the pleasure to work with."  
--Teri Hendy, President, Site Masters Inc.

"I hired Michael straight out of college and was impressed with his creative talent and 'out of the box' thinking. His very first project turned into one of the first 'free-formed' climbing components in the playground industry. Michael would be a tremendous creative asset to any prospective employer."  
--Wes Sutton, Director of Standards and Compliance, PlayCore, Inc.

"Mike was exceptionally gifted designer and engineer with a keen sense of team allowing the company and customers to benefit from quick and correct solutions to opportunities. His efforts resulted in on-time and to budget project completion while working with a broad and dynamic group of disciplines in and outside the company. He always looked for the best interest of all."  
--Scott Rix, Director of Premium Play, National Sales Manager, Gametime/ Playcore/ Swing-N-Slide