

KEVIN CARPENTER

Production Design | Mechanical Systems Engineering | Creative Consultant

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Austin TX 78758

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<https://kevin-carpenter.github.io/Portfolio.pdf>

- Highly qualified Production Designer, Mechanical and Systems Engineer, Artist and Creative Director with over 20 years of professional engineering experience in complex electro-mechanical systems design, production, animatronics, and attraction design.
- Specializes in transforming a creative vision into physical reality, from the blue sky conceptual phase through the design, engineering, fabrication, integration and on-site installation execution.
- Over 15 years of Project and Organizational Management experience leading cross-functional teams in technical engineering, R&D, and creative production design studio environments.
- Excels in highly dynamic environments that offer a wide range of multi-disciplinary development projects with the opportunity to combine creative design talents with technical engineering expertise, systems-oriented design methodology, innovative thinking and problem-solving skills, innate leadership and communications abilities, and attention to detail in theming and artistry.

CORE COMPETENCIES

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|------------------------------|---------------------------------|-------------------------|
| • Project Management | • Blue Sky Conceptualization | • Attraction Design |
| • Robotics / Animatronics | • Themed Set / Scenic Design | • Interactive Exhibits |
| • 3D CAD Design (Solidworks) | • Mechanical Engineering | • Architectural Design |
| • Creative Art Direction | • Lighting / Sound Design | • Character Animation |
| • Scale Prototypes / Models | • Systems / Functional Analysis | • Integration & Testing |
| • Installation Logistics | • Toy Design / Product Ideation | • Educational Outreach |
| • Technical Drawing Packages | • Modern Artist / Painter * | • Strategic Planning |

PROFESSIONAL EXPERIENCE

Paul Bernard Exhibit Design and Consulting (PBE) Lead Interactive Design Engineer

Austin, TX
2015-2018

- Lead Engineer on the successful design and execution of several large and complex moving interactives, animatronics and immersive themed attractions in the **"Wiess Energy Hall 3.0"**, a 30,000-sq-ft permanent attraction at the *Houston Museum of Natural Science*.
- Project Lead on the following attractions. Responsibilities included blue sky conceptualization, development, design, layout, mechanical and structural engineering, technical drawings, schematics, artistic direction, theming, fabrication, on-site installation, integration, and testing.
 - A large 15-ft diameter 3300-lb rotating *Tricone Drill Bit* attraction, suspended above the audience.
 - A working scale replica of an *Automated Oil Drilling Rig Floor* immersive themed attraction consisting of 4 large synchronized animatronic machines.
 - An interactive *Underwater Subsea Wellhead Site* themed attraction, with robotic ROV arms.
 - An animatronic Robot Co-Pilot of the *EFX-3000* 40-seat Motion Platform Theatre Ride attraction.
 - A rotating *Electrical Power Generator* exhibit.
 - A flying VTOL *"Car of the Future"* exhibit.
 - A moving scale Satellite replica, which transverses the exhibit hall on a custom rail track system.
- 3D Print Consultant on Energy City, a 2,500-sq-ft scale model city of the future (with 750 printed buildings) brought to life with animated projection mapping delivered by 32 laser projectors.
- Engineering and design consulting on the development of several futuristic vehicles for the 2018 James Cameron and Robert Rodriguez science fiction film *Alita: Battle Angel*.
- Design and development of several interactive exhibits for the *Atturaif Living Museum*, a UNESCO World Heritage Site in Old Diriyah, Saudi Arabia.

KumoTek Robotics, LLC**Director of Hardware Development • Mechanical Design Engineer**

Richardson, TX

2011-2015

- Director of Hardware Development. Engineering Project Management on the successful execution of 14 large scale immersive Robotic and Animatronic themed museum attraction projects.
- Collaborated with the *Oklahoma Museum Network* on the development, design, artistic direction, fabrication, logistics and installation of a 3-year travelling interactive Robotic Dinosaur Attraction.
- Conceptual design of an animatronic Dinosaur Attraction for *Six Flags Great Escape Theme Park*.
- Engineering design and development of the "RoboBoom". Awarded the *Pick Hit Radio Award* at the 2012 National Association of Broadcasters Conference.
- Completed the mechanical design and fabrication of 3 functional "Robo-Penguin" robots in collaboration with *John Downer Productions* for the BBC Production, *Penguins: Spy in the Huddle*.
- Creative Director. Responsibilities include artistic design, creative direction, immersive themed attraction design, sound and lighting design, story development, marketing and media graphics.
- Conceptual design and feasibility studies associated with developing and producing an immersive and interactive travelling Nikola Tesla Attraction with the *Nikola Tesla Museum* in Belgrade.

Hanson Robotics, Inc. (HRI)**Operations Manager • Director of Hardware Development • Design Engineer**

Richardson, TX

2007-2010

- Operations/Studio Manager. Managed all design studio facilities, equipment purchases, studio layout, installation logistics, technical demonstrations, photo shoots and writing proposals.
- Director of Hardware Development. Directed a creative team of artists, design engineers, machinists, mold makers, technicians and sculptors on the development and fabrication of 20 major international animatronic and robotic development and fabrication projects.
- Lead Mechanical Design Engineer, Project Manager, and Character Animator on the design and fabrication of 5 prototype *Zeno RoboKind* anime-inspired conversational character robots.
- Assistant Creative Director involved in the artistic design and creative direction of *Zeno RoboKind*, including character design, character animation, theming, story concepts, media graphics.
- Lead Mechanical Designer, Project Manager, and Systems Engineer on the development, design and fabrication of 16 internationally acclaimed and recognized human-like android robots.
- Project Manager and Lead Designer on a collaboration with musician David Byrne on the development of an animatronic singing robot exhibit at the *Museo Reina Sofia*, Madrid Spain.

Lockheed Martin Missiles and Fire Control (LM-MFC)**Sr. Systems Integration Engineer**

Grand Prairie, TX

2001-2006

- Performed Systems Engineering and Requirements/Systems Definition Team Lead responsibilities on six major aerospace and missile defense system development projects.

Parametric Technology Corporation (PTC)**Implementation Consultant, Pro/ENGINEER Mechanical CAD Systems**

Dallas, TX

2000-2001

- Performed large assembly systems design, file management, user consultation and training at the National Ignition Facility (NIF) at Lawrence Livermore National Labs. *Livermore, CA*.

Southwest Research Institute (SwRI)**Research Engineer, Aerospace Electronics and Training Division**

San Antonio, TX

1997-2000

- Performed Lead Mechanical Design Engineering and Team Lead responsibilities on several aerospace projects including an A-10 Engine Throttle Cable NDE inspection procedure using ultrasonic guided wave technology to detect fatigue cracks. Awarded a **US Patent** in 2004.

EDUCATION**Southern Methodist University (SMU)**

Dallas, TX

• Bachelor of Science: **Mechanical Engineering (BSME)**

1997

• Master of Science: **Systems Engineering** (24 Graduate Credits Earned, No Degree Pursued)

* Kevin Carpenter is also an accomplished Modern Artist painting under the pseudonym **GAEDGE**.