

# MARK BUCHANAN

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**M.I.T. educated designer & seasoned project leader** known for bringing ambitious **concepts to life**. Multi-decade, **multi-industry portfolio** of products, exhibits and environments that **educate, engage, and inspire** audiences around the **globe**.

## AREAS OF EXPERTISE & EXCELLENCE

Design Leadership • Exhibit Design • Exhibit Fabrication • Architectural Design • Design / Build • Project Management • Custom Fabrication • Technical Design • Construction Management • Artifact Case Design & Fabrication • Operations Management • Production Process Standards & Protocols • Design & Construction Documentation • CAD/CAM/CNC Digital Fabrication • Additive Fabrication Methods • Broad & Deep Knowledge of Materials • 3D Visualization • 3D scanning • Design Thinking • Product Design • Concept Development • Product Development • Prototyping • Vendor Management • Quality Control • Client Services • Installation • Scenic fabrication • Interactive Kinetic Exhibits

## SUMMARY OF VALUE

- ☉ **Globally minded**. Responsible for **culturally significant** projects (and several **patents**) across the US & abroad.
- ☉ Innovative thinker employing an **analytic, strategic, and collaborative approach** to manifesting creative solutions.
- ☉ Passionate about high-caliber **craftsmanship**. Driven to create **beauty, sustainability & permanence** in built form.
- ☉ Unique blend of strong **business acumen**, operations & leadership skills, and extensive **in-the-shop experience**.
- ☉ **High-EQ leader** who **manages teams of 10-100 and mobilizes** multi-disciplinary creative & technical design teams.
- ☉ Adept at **managing both lean & multi-million-dollar projects** with grace & clarity while driving **efficiency & savings**.
- ☉ Strong **communicator, trainer and 'translator'** between **technical & non-technical teams**, clients & vendors.

## RELEVANT HISTORY + IMPACT

**PACIFIC STUDIO** | **Technical Design Director** | May 2015 – Present | Seattle, WA

**Promoted within one year** after joining this nationally recognized fabrication + design studio that brings to life high quality, engaging exhibits for museums, visitor centers, and public spaces. Directs **multi-disciplinary teams of 20-30** professionals including: Technical Designers, CNC technicians, and Digital Fabricators on projects ranging from simple, small-scale exhibits, to large, **complex, multi-million-dollar (up to \$18M+)** installations. **80+ completed projects to date**, adept at managing 8-12 active projects across multiple departments & disciplines. Notable projects:

- **The Gateway Arch Museum**, St. Louis MO (National Park Service) • **Lonestar Flight Museum**, Dallas TX • **The Witte Museum**, San Antonio TX • **Nordic Heritage Museum**, Seattle WA • **Flying Heritage & Combat Armor Museum**, Paine Field WA • **University of Nebraska** (Lincoln) - Morill Hall (Natural History), Lincoln NB • **California Science Museum** - Dogs Exhibit, Los Angeles CA • **The (New) Burke Museum**, Seattle WA • **Dallas Holocaust and Human Rights Museum**, Dallas TX • **National Museum of African American History and Culture** – Smithsonian, National Mall in Washington D.C.
- Extensive experience collaborating with and managing manufacturers/suppliers throughout the US & abroad.
- Streamlined workflows in SolidWorks and established key standards and procedures, resulting in **dramatically faster turnarounds** (reducing some processes from **days** to mere **hours**), **reduced error rates**, and **happier staff & vendors**.
- Created **automated** estimating tools, introducing **real-time data tracking and improving prototyping** capabilities.
- **Advise leadership** on RFP process, shaping key decisions around projects & investments.
- Further information and photos: [pacificstudio.com/showcase](http://pacificstudio.com/showcase)

**Project Manager** | July 2014 - May 2015

- Spearheaded complex, multi-phase projects, leveraging expertise in design, detailing, and fabrication to ensure **precise adherence to budget and schedule**.
- **Key Projects:** Museum of Flight | Seattle, WA • Minuteman Missile National Historic Site | Philip, SD

**DH CUBED, LLC** (Start-up) | **Partner | Creative Director** | May 2012 – Present | Seattle, WA

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*DH Cubed is a pioneer of interactive educational courseware and devices for the dental industry. Primary Duties: Design Thinking & Business Strategy, Creative Direction & Product Development. Develop online training courses, webinars, and projects focused on increasing sales, efficiency, and safety for hygiene professionals and their patients.*

**MB3 LTD.** | **Designer / Owner** (Freelance) | **2000 - 2014**

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*Design & 3D Visualization services for: Industrial Design, Retail Design, UX/UI Design, Product Design, Ideation/Prototyping, Computer Based Training, Architecture, Sales & Marketing, Residential Design/Build, Public Art. **Notable projects:***

- **Clarity Technologies Inc.** – Product design and prototyping of a 7-minute (credit card sized) HIV test. Named as co-inventor on patents; India Patent No. 216073, South Africa 2003/3814, China ZL 01819381.1, Australia 60/241209 (USA, Canada and Europe patents pending)
- **Dale Chihuly** – 3D visualization and schematic design of the pedestrian bridge at the Glass Museum in Tacoma. Chihuly Garden & Glass Bookstore, retail space schematic design.
- **City of Tacoma** – Thea Foss Waterway Master Plan (3D visualization, animation, Urban Design)
- **Design/Build residential construction** (Several homes: from "dirt" to occupancy)
- **Seattle Central Community College Faculty** – Softimage XSI / 3DS Max Instructor (3 years).
- **GRP Canopies Ltd.** [UK's #1 Canopy Manufacturer] - Director & Technical Advisor - duties included prototyping, 3D modeling & CAD/CAM, manufacturing, Sales Engineering & Business Development.

**COPSEY COMMUNICATIONS GROUP** | **Managing Director** | United Kingdom | 2006 – 2009

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*UK Telecommunications subcontractor to BT. Services: engineer staffing, Cable recovery, National Grid Fiber Systems, FTC to CE product certification and R&D for the European Standards Commission(s) in Wireless & Mobile technologies.*

- **Managed operations in Scotland and England (80+ staff)**; implemented national-grid infrastructures (cable recovery, fiber optic cabling and switch gear programming).
- **Increased gross sales by > £1MM/yr.** (2008) by securing new contracts with Skanska, McNicholas & Telent (global suppliers of telecom) while simultaneously expanding current revenue base with BT, Fujitsu and Cable & Wireless.

**GLOBE MACHINE MANUFACTURING CO.** | 2003– 2006

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*Machine Design & Product Line Material Handling Design for: Engineered Wood Products, Gypsum, Plastics, Pulp & Paper, and Carbon Fiber press systems. Progressed through several roles, most notably:*

#### **Sales Engineer**

- Created comprehensive 3D visualization & simulation sales presentations **improving confirmed orders by over 17%**. Facilitated Sales presentations for proposed system design.
- Led process equipment system customization, detailed pricing schedules, production analysis, lean engineering solutions, presenting metrics and quantitative analysis to substantiate design, RFQ/RFP marketing, and sales [B2B].

#### **Research & Development Manager – Computational Tools**

- Utilized parametric 3D modeling (AutoCAD / Inventor / SolidWorks), FEA analysis, BOM and ERP systems to generate new efficient designs. Led implementation and development of Globe's 3D engineering tools program.
- Oversaw development of "configurators" (spreadsheet driven 3D models). Engineering to Manufacturing (E2M) process time dramatically decreased. Example: Time taken to design & document a conveyor **decreased 66%**.

**JQB LTD.** (International Yacht Design) | **Designer / Project Architect** | 2000– 2003

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*Spearheaded design for Paul Allen's World-Class 410-foot Private Yacht – M | Y Octopus (\$200 MM). Key roles included:*

- **Project Manager (PM)** - Managed and directed contractors in the design & fabrication of mega-yacht interior
- **Sr. Designer** - concept development, DD, and CD for; Owner, VIP, and Guest Interiors
- **Project Architect** - Accountable for the complete Interior Design Documentation & Control

**ARK INTERFACE / NEC PACKARD-BELL** (Software) | **Director of Animation & User Interface Design**

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*Led design of 3D content and UX/UI for B2C commercial "internet city." Oversaw product management, ensuring delivery schedules are met and quality exceeds expectations. Responsible for UX/UI Design, shipping on over 3MM units per year, **reducing product returns by ~10% and ushering company from #12 to #1 (volume shipped) within 3 years.***

## EDUCATION & PROFESSIONAL DEVELOPMENT

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) | **M. Arch** (Master of Architecture)

HARVARD GRADUATE SCHOOL OF DESIGN – cross registration

THE MEDIA LAB – **Design and Computation Group**, TA (3 years)

NEW YORK INSTITUTE OF TECHNOLOGY | **B.S. Architectural Technology** (4 years of studio), Salutatorian

YESTERMORROW SCHOOL OF DESIGN, VT | **Design / Build methodologies & practice - Certification**

LANDMARK EDUCATION | **Senior leader of transformational education** (14+ year engagement). Developed strong EQ. Accountable for the global delivery of courses. Led group of **600 supervisors**. Created global training programs, policies, and procedures. Trained and developed 100's of production staff. Produced courses for 100-1000 people.

## TECHNICAL SKILLS

**Software:** [**expert**] Autodesk Inventor, Softimage XSI, Rhinoceros 3D, AutoCAD/AutoCAD Mechanical, , Adobe Premier Pro, Photoshop, Adobe Illustrator, Microsoft Office Professional

**Software:** [**proficient**] Revit Architecture, SolidWorks, Adobe Creative Cloud Suite, numerous 3D printing & Scanning tools, Smartsheets, Epicor (ERP), Procore (Construction Management software).

**Rapid Prototyping:** [**advanced**] Rich experience in manufacturing. Familiar with whole product development process from concept to production. Complex surface modeling & file conversion to various formats for prototyping, injection molding, investment casting, blow molding, CNC, Brake-form, and 3D printing.

## PERSONAL INTERESTS & ACCOMPLISHMENTS

**Mountaineering:** Peaks bagged: Mt. Rainier (2x), Mt. Adams, Mt. St. Helens, Mt. Shuksan, Mt. Olympus, and many others.

**Hiking:** Completed the Wonderland Trail – September 2009 (93 miles / 22.5k elevation gain, around Mt. Rainier)

**Cycling:** Former triathlete who enjoys commuter biking, mountain biking and cycle tours.

**Volunteering:** Boy Scouts of America – Asst. Scout Master Troop 282 Aquila District (W. Seattle); CPR & First Aid certified.