



Ivan Obrien

Junior Mechanical Design Engineer, Product Design

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SUMMARY

Junior Mechanical Design Engineer with hands on experience supporting **product development** from concept modeling through prototype testing and design updates. Creates detailed 3D models and technical drawings with SolidWorks, Rhino3D, and AutoCAD. Supports ergonomic design, manufacturability reviews, measurement activities, 3D printing, and **engineering documentation**. Works closely with manufacturing and engineering stakeholders during design reviews, prototype builds, and product improvement efforts. Applies **mechanical design principles**, structured problem solving, and clear communication when evaluating fit, performance, and reliability. Experience at Pioneer Design Labs and Carolina Product Innovation Center provides a practical foundation for onsite collaboration, project execution, and **continuous improvement**. Ready to contribute thoughtful design work, dependable documentation, and useful prototype feedback within a product development team.

EXPERIENCE

Junior Mechanical Design Engineer, Product Development

Pioneer Design Labs 📅 July 2025 - Present 📍 Raleigh, NC

Supports product component development through **CAD** modeling, drawing creation, prototype review, **engineering documentation**, and design discussions with manufacturing and engineering partners. Contributes at an early career level across product improvement work, fit evaluation, testing observations, and reliability focused design updates.

- Created **SolidWorks** models and **AutoCAD** drawings for product component revisions.
- Prepared prototype models and reviewed fit requirements before build activities.
- Evaluated concepts with measurement tools and manufacturing feedback for design decisions.
- Documented product revisions and design updates for engineering review.
- Coordinated design discussions with **manufacturing** and engineering stakeholders.
- Applied **mechanical design principles** to improve prototype performance and reliability.

Mechanical Design Engineer Intern, Product Development

Carolina Product Innovation Center 📅 May 2024 - June 2025 📍 Durham, NC

Supported supervised **product development** assignments through Rhino3D and SolidWorks modeling, prototype evaluation, testing documentation, manufacturing reviews, and organized CAD records. Built practical experience translating engineering analysis into design adjustments and useful project team documentation.

- Created **Rhino3D** and SolidWorks models for supervised product assignments.
- Supported **3D printing** activities and reviewed prototype evaluation results.
- Documented testing observations and proposed practical design adjustments.
- Reviewed manufacturing constraints during early concept development.
- Organized CAD files and technical documentation for project teams.
- Applied engineering analysis methods to resolve component design challenges.

PROJECTS

Ergonomic Product Prototype Study 📅 2024

Explored ergonomic form, fit, and performance through CAD concepts, prototype builds, measurement activities, and design reviews. Personal curiosity about user comfort shaped practical evaluation choices and strengthened product design judgment.

Manufacturing Ready Component Development 📅 2025

Developed a component concept with SolidWorks and Rhino3D, then reviewed printing results, manufacturing constraints, and technical documentation. Each revision offered a clear lesson about balancing performance, fit, and production needs.

STRENGTHS

- ⚙️ **CAD development**
Built component models and drawings for active product work. A careful design review often revealed a useful fit improvement before prototype build.
- 🔧 **Prototype evaluation**
Turned build observations into practical design updates. Seeing a physical prototype made testing results easier to explain during reviews.
- 🏭 **Manufacturing collaboration**
Included manufacturing feedback during concept work. Early conversations helped prevent avoidable revisions and supported smoother prototype execution.
- 📄 **Technical documentation**
Kept revisions, observations, and CAD records organized. Project teams gained clearer references when design changes moved forward.
- 💡 **Structured problem solving**
Used measurement results and engineering analysis to address component issues. Tough design questions became manageable through focused evaluation.

SKILLS

CAD Modeling SolidWorks

Rhino3D AutoCAD

Product Development

Prototype Testing

Manufacturing Processes

