

## **About Our Company**





Today's products demand more than traditional approaches. We were early pioneers in Modeling and Simulation and have grown to become a full-service firm bringing design, engineering, development, and graphics talent together to create breakthrough products and processes. The key difference is our ability to interlace technologies together and accelerate product innovation. We've done it for the best brands in the world and continue to serve local, national, and global Fortune 500 companies. As a student-employee, you'll get the opportunity to help the world's best companies develop their newest products.

#### THE TEAM

Our mantra is simple: We Change Lives by Developing Great People. Building the talents and skills of our team is essential to our success and one of the reasons we continue to be voted a Top Workplace in Cincinnati. We're young, move like a startup, and are singularly inspired to do great work and have an impact. As part of our team, you'll work on real projects with senior leaders and be exposed to our multiple collaborative, connected disciplines.

#### THE KINETIC VISION ENVIRONMENT

When we designed our campus, we knew we had to do one thing: blow up the cube farm. We created our workspaces with an open-air feeling with welcoming décor and amenities. You'll also find many activities and lots of ways to connect, including warm-weather food trucks and grill outs, pizza lunch-and-learns, sports teams, motorcycle club, special team events, and our annual Holiday Party bash (as social distancing permits).

#### **OUR VALUES**

Our team comes from many backgrounds, but we share five core values and strive to live up to the best of each: Respect, Attitude, Work Ethic, Creativity, and Order. You can see examples of our culture and values in what we do: from using solar power to generate one-third of our electricity needs, operating our own recycling program, participating in high school STEM programs, to contributing thousands of hours in volunteer work for our favorite charities. We hope you'll join us on the journey!







## Augmented Reality







www.kinetic-vision.com/ar

## **DESIGN +**PRODUCT DEVELOPMENT



## **Embedded Development**

The Kinetic Vision Embedded Development team focuses on providing clients with better solutions using creative thinking, rapid iteration, and the latest technology. Collaboration with other teams allows for products to be designed and built entirely in-house. Solutions range from integrating off-the-shelf components to designing custom systems from the ground up utilizing the following disciplines:



#### FIRMWARE DEVELOPMENT

Develop firmware for embedded systems using a variety of microcontrollers and embedded Linux platforms to interface with sensors and electromechanical systems. Work closely with mechanical and electrical engineers to realize new solutions.



#### **CIRCUIT DESIGN**

Prototype and manufacture custom circuits to accelerate the development and testing of electromechanical systems. Design, simulate, and test analog and digital circuits to optimize for power, cost, and size constraints.



#### **ELECTROMECHANICAL SYSTEMS**

Design, develop, and build automated systems for research and manufacturing applications. Solutions involve integrating a variety of disciplines including hardware design, firmware development, desktop development, and industrial design.



### **IOT AND DISTRIBUTED SENSING**

Leverage the Internet of Things (IoT) to acquire data from across the globe. Analyze these distributed inputs, and keep systems running efficiently and smoothly. Integrate IoT technologies such as Bluetooth, WiFi, and LoRa into new and existing products.

#### **Skill Sets**

Firmware Development
Embedded Linux
Circuit Design and Prototyping
PCB Layout

#### **Fields**

Electrical Engineering Computer Engineering Mechanical Engineering Other Related Fields

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

C / C++
eCAD (Altium / Eagle)
3D CAD (Solidworks / NX)
Source Control (Git / SVN)
Wiring and Soldering
Test and Measurement Equipment
Mixed Signal Simulation
(SPICE / Multisim)

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## **DESIGN +**PRODUCT DEVELOPMENT



### **Product Engineering and Quality**

Kinetic Vision provides advanced product development and design services to companies in the medical, automotive, consumer products, and aerospace industries. Using an integrated approach to product development enables us to simultaneously design, engineer, and market new products, resulting in shorter time-to-market, higher quality, and cost savings. You'll be exposed to and work in a number of areas:



#### PRODUCT DESIGN AND DEVELOPMENT

Use advanced 3D CAD modeling software and equipment in the design, development, and testing of new products and manufacturing equipment.



#### **MODELING AND SIMULATION**

Simulate, test, optimize, and redesign products and processes across a wide spectrum of physical problems using advanced engineering techniques such as FEA, CFD, and custom automation.



#### **REVERSE ENGINEERING**

Work with data collected from various 3D non-destructive modalities, including industrial Computed Tomography, to optimize products from a broad set of industries.



#### RAPID PROTOTYPING

Work with state-of-the-art equipment to bring product concepts to life. Hands-on fabrication utilizing CNC milling machines, injection molding equipment, 3D printers, and laser cutting.

#### **Skill Sets**

Product Design and Development FEA Analysis and Optimization Reverse Engineering

#### **Fields**

Mechanical Engineering Aerospace Engineering Biomedical Engineering Other Related Fields

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

ANSYS ABAQUS CATIA HyperWorks LS-DYNA SOLIDWORKS Power BI

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## INFORMATION + TECHNOLOGY

## **Information Technology**

Our Information Technology team architects, secures, configures, and maintains all computing technology used by the company. Our current initiatives include:



#### **VIRTUALIZATION**

Use Hyper-V, VMware, VirtualBox, Vagrant, and other virtualization technologies across a variety of use cases.



#### **NETWORK MONITORING AND DESIGN**

Plan, configure, document, and optimize our 10Gb/s network and use the latest networking technologies.



#### **DESKTOP SUPPORT**

Front-line support for our tech-savvy end users and their dynamic computing environments.



#### **SERVER ADMINISTRATION**

Administer and monitor our growing data center, including thousands of cores and hundreds of CPU and GPU compute nodes.



#### **CLOUD**

Implement the latest in cloud technology, including virtual networking components, load balancers, compute instances, storage technologies, archival products, PaaS, and more.

#### **Skill Sets**

Networking Cybersecurity DevOps Hardware Support

#### **Fields**

Information Technology Information Systems

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

Windows Server
Active Directory
SCCM
NAS Management
Virtualization
WireShark
AWS / Azure
Group Policy
VDI / Thin Clients
Enterprise Storage
Asset Management

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## INNOVATION + INDUSTRIAL DESIGN



### **Industrial Design**

Our Industrial Design team is composed of great problem solvers who can synthesize human experiences to generate products that improve consumer value through superior interaction and visual aesthetics. We utilize our internal resources such as engineering, CAD programs, model shop, software development, and more to help us drive innovation in the following types of project work:



#### **BIOMEDICAL**

Redefine functional form and user ergonomics to develop more efficient solutions within handheld and non-handheld instrumentation. We work in many materials and processes that drive change and impact lives.



#### **CONSUMER PRODUCTS**

Consumer products is a broad category and we work on products from simple bottles to electronics, from pet items to sporting goods. They all require research in cultural trends, color and finish.



#### **INDUSTRIAL PRODUCTS**

We bring life to commercial and industrial products that exist in rugged environments and conditions. Our focus is to improve functional process and durability through design while incorporating understanding of outside influences.



#### INNOVATION

Our team constantly collaborates through strategic innovation using a blended team approach. We are looking for creative problem solvers with a history of redefining problems through unique points-of-view.

#### **Skill Sets**

Innovative Problem Solving Strong Sketching Ability 3D CAD Proficiency Thrive in Collaboration

#### Fields

Industrial Design

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

Adobe Creative Suite Solidworks Keyshot Microsoft Office

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## **Solving Problems with Synthetic Data**

Our Machine Learning and Training Data team develops and implements Al solutions for a wide variety of applications across a range of vertical markets. We specialize in creating synthetic datasets for training machine learning and deep learning algorithms. Our projects involve:



#### **DEEP LEARNING**

Develop artificial neural networks that learn patterns from data. Train models to solve a wide array of problems, including image and sound recognition, recommendation systems, natural language processing, and many more.



#### **DATA SCIENCE AND ENGINEERING**

Create robust data pipelines to feed machine learning models the increasing amounts of disparate data they require. Develop utilities that analyze and validate vast amounts of highly variable datasets from which complex patterns can be modeled.



#### **SYNTHETIC DATA GENERATION**

Utilize real-time game engines and high-fidelity 3D digital assets to create photorealistic imagery and simulations that represent authentic data. Engineer synthetic datasets that meet specific conditions that are impossible to obtain through traditional data collection methods.



#### **COMPUTER VISION**

Develop software to process and interpret input from cameras, depth sensors, and other image data sources in order to automate the functions of human visual perception.

#### **Skill Sets**

Data Modeling
Data Visualization
Probability and Statistics
Software Development
Digital Asset Creation
Environment Modeling

#### **Fields**

Computer Science
Data Science
Data Engineering
Machine Learning
Artificial Intelligence
Technical Art

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

Python TensorFlow NVIDIA APIs OpenCV Unreal Engine Blender

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### **Management and Operations**

Our Management and Operations team is focused on creating scalable processes, integrating management software systems, and driving excellence in operating efficiencies. The ideal candidate thrives in a technical environment and enjoys working with designers, engineers, project managers, software developers, and technical visual artists. Specific assignments may include:



#### **TECHNICAL PROJECT MANAGEMENT**

Assist with project management by tracking and analyzing hours, costs, and other critical data. This includes working with our financial and project management systems, exploring new methodologies for efficiency, and providing analysis and reporting for division leads and management. Assignments may also span into technical projects such as metrology and inspection services.



#### **MANAGEMENT ANALYSIS AND REPORTING**

Utilize critical thinking and analysis skills to assist management in making informed decisions. Assignments may include working with large sets of data, tracking statistics ranging from web analytics to employee data, assisting with upgrades to our financial and resource planning tools, and managing facilities using IoT devices.



#### **OPERATIONS**

Contributes to helping the company run efficiently by assisting with general office operational needs and helping to develop and maintain the company intranet site. From trade show support, to facility design, to event support, the Operations team is highly connected across all of the company's divisions, providing an exceptional opportunity to connect with key stakeholders from each discipline.

#### **Skill Sets**

Technical Project Management Analysis and Reporting Operations

#### **Fields**

Industrial Management Operations Management Engineering Accounting Other Related Fields

#### Requirements

3.0 GPA or Higher

#### **Tools**

Collaboration Platforms
CRM Tools
Project Management Software
Financial Systems (Financial Force)
Issue Management
Resource Planning
MS Office and Google Suite

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### **Engineering Metrology and Analysis**

Kinetic Vision provides advanced metrology and engineering inspection to companies in the medical, automotive, consumer products, and aerospace industries. Using an integrated approach to metrology and inspection enables us to simultaneously measure, inspect, qualify, troubleshoot, and fully understand products at the micron level. The Metrology + Inspection team iterates on designs, augments engineering, and helps clients develop new products with shorter time-to-market, higher quality, and cost savings. Our projects involve:



#### **METROLOGY AND DATA ACQUISITION**

Work with a multitude of in-house acquisition tools, including Industrial Computed Tomography (µCT), Structured light, Laser/CMM, and more to investigate, troubleshoot, and qualify samples at resolutions capable of detecting detail to the micron level.



#### INSPECTION AND POST-PROCESSING

Utilize a wide range of data collected from in-house inspection modalities for troubleshooting, investigation, and qualification of a wide array of devices and materials. You will gain experience in the latest qualification and inspection trends in major industries while utilizing the latest software programs for data interpretations.



#### REVERSE ENGINEERING

Work with data collected from various 3D non-destructive modalities to recommend new methodologies, processes, and componentry to improve existing products.



#### **IMAGE AND SPATIAL DATA ANALYSIS**

Manipulate, analyze, and visualize large 2D or 3D datasets such as those obtained from industrial CT scans, medical imaging, photogrammetry, and other inspection modalities.

#### **Skill Sets**

Product Design and Development FEA Analysis and Optimization Reverse Engineering and Inspection Qualification and Quality Control / Assurance

#### **Fields**

Mechanical Engineering Aerospace Engineering Biomedical Engineering Industrial Management

#### Requirements

3.0 GPA or Higher

#### **Tools**

Polyworks
Geomagic
SolidWorks
Volume Graphics
Smart Profile
Microsoft Office
Python
Project Management Software
Adobe Creative Suite
Industrial Inspection Equipment

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## **SOFTWARE +** SOLUTIONS

## **Software Development**

Our software development teams focus on providing clients with better solutions using creative thinking, automation, and the latest technology. Depending on project needs, we may build complex applications and infrastructure from the ground up, or we may improve existing systems. Our work involves collaboration among developers, engineers, and artists, incorporating a variety of skill sets on projects that include:



#### **ENGINEERING AND AUTOMATION APPLICATIONS**

Create desktop applications, scripts, and server-side code to automate and support finite element analysis (FEA) simulations, CAD, data management systems, and other computer-aided engineering (CAE) tools.



#### **WEB DEVELOPMENT**

Build full-stack web applications and other interactives, with a focus on marketing, database-driven tools, and 3D interactive environments. Leverage modern web technologies including: React, Node.js, Flask, Ruby on Rails, GraphQL, REST APIs, PostgreSQL, Docker.



#### **CLOUD**

Develop cloud-based solutions for hosting scalable web applications and data storage. Leveraging cloud providers and tools like Amazon Web Services, Azure, Google Cloud Platform, and Heroku.



#### **DEVELOPMENT OPERATIONS**

Coordinate developers, manage software testing and quality assurance, deploy releases, support clients and users, and keep our projects running smoothly. Develop automated CI/CD pipelines to streamline builds, testing, and deployments.



#### **QA TESTING AND PLATFORM SUPPORT**

Develop, support and maintain well established engineering and web applications. Develop testing frameworks for automatically running unit tests, regression tests, and UI tests.

#### Skill Sets

Desktop Application Development Web Development DevOps QA Testing Platform and User Support

#### **Fields**

Computer Science Computer Engineering Information Technology Other Related Fields

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

Git
C / C++ / C#
Javascript / HTML / CSS
ReactJS
Python
Shell Scripting
Ruby on Rails
PostgreSQL
Docker
AWS / Azure / GCP

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**Kinetic Vision is an Equal Opportunity Employer** 

## VIRTUAL + INTERACTIVE SOLUTIONS



### **Virtual Reality and Interactive Visualization**

Whether for photorealistic VR experiences, simulators, or mobile AR apps; we utilize leading game engine technology to carefully craft XR experiences to provide our customers with advanced visualization, design, engineering, training, and marketing capabilities. Our project involve:



#### **INTERACTIVE DESIGN**

Bring complex processes to life in a real-time 3D environment to help clients evaluate the success of their products, or train and educate their audiences.



#### 3D MODELING

Create optimized, high-quality models, materials, and shaders for VR, AR, and other applications.



#### **UI / UX DESIGN**

Craft and test intuitive user interface designs that maximize user satisfaction through visually appealing layouts, well-organized information, and easy-to-use controls.



#### **REAL-TIME SIMULATION**

Leverage GPU advances to apply the speed and performance of game engine physics simulations to real world problems.



#### **MOBILE DEVELOPMENT**

Develop mobile applications and augmented reality experiences with high-quality visuals, well-designed user interfaces, and advanced functionality.



#### **MOTION CAPTURE**

Use motion tracking systems and depth sensing technologies to capture user and environment data that can be integrated into animations, VR, or simulations.

#### **Skill Sets**

3D Modeling and Materials Game Development Mobile Development UI / UX Design Photogrammetry

#### **Fields**

3D Animation and VFX Computer Engineering Computer Science Game Design Graphic Design Interactive Design

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

3ds Max / Maya ARCore / ARKit C++ and C# OpenGL / WebGL Substance Painter Swift Unity Unreal Engine NVIDIA APIs

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# **VISUAL +**COMMUNICATION

### **Digital Animation and Design**

We challenge the ordinary, simplify the complex, and strive to create work that is inspirational. We are visual thinkers who deconstruct problems to create narratives that powerfully convey concepts, products, or services. Your work will focus on the following areas:



#### **TECHNICAL VISUALIZATIONS**

Communicate intricate technological concepts in compelling ways. Work on a wide variety of projects, from complex consumer products, to medical technology.



#### **VIDEO EDITING AND MOTION GRAPHICS**

Combine HD and 4K video, 3D/2D animation, images, graphics, and special effects using advanced editing software to build powerful content and complete presentations.



#### SALES AND MARKETING COLLATERAL

Build effective campaigns to communicate key messages for target audiences, including printed materials, trade show exhibits, broadcast media, and digital presentations.

#### **Skill Sets**

Proficient in 3D Software
Understands Light and Form
Understands Animation Principles
Demonstrates Design Fundamentals
Familiar with Latest Trends
Collaborates with Others
Ability to Solve Problems
Attention to Detail

#### **Fields**

3D Animation and VFX Motion Design Graphic Design Industrial Design Fine Arts Other Related Fields

#### **Requirements**

3.0 GPA or Higher

#### **Tools**

Adobe Creative Suite 3D Studio Max Maya ZBrush Keyshot Unity Microsoft Office

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