

Portfolio



Applied AI Expertly Crafted

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Executive Summary

H10AI can increase client efficiency by 51%, reduce business costs by 45%, and improve the employee experience by 42%. They pride themselves on working with innovative companies as they seek to develop software solutions with an emphasis on Machine Learning, Robotics, and Robotics Processing Automation (RPA).

They take a holistic approach to development, putting an emphasis on ensuring all development has a clear ROI (return on investment) and that the client's bottom line is impacted. H10AI Provides the following tooling:

- **AI and RPA Tooling Discovery Session** - Half to a one-day workshop to demystify AI, with two goals—inspire what's possible with AI and RPA and envision AI and RPA use cases
- **AI and RPA use case validation** - 1-4 weeks of data scientist-led use case validation
- **AI and RPA MVP / POV / POC** - project typically involving 2-3 months of rapid prototyping and/or MVP sprints
- **Production and scale** - Leverage platforms to scale prototypes / MVPs into production
- **Enterprise AI and RPA operating model** - Assess AI operations and offer recommendations for an industrialized operating model
- **Continuous improvement** - Leverage the production platform for continuous model improvement and life cycle management

H10AI takes its service seriously. They believe that quality service is more than just making excellent products, it also includes providing clients with both production performance and customer service. H10AI always seeks to live by its core values of transparency, communication, and hard work. So much so, that you might get sick of it.

H10AI is exceptionally grateful that you have read their executive summary and hope that they can provide you with exceptional service at competitive prices.



Robotics Processing Automation

What Is it?

Robotics Processing Automation (RPA) is a technology that uses software robots to automate repetitive, manual tasks. RPA is important because it can help organizations improve efficiency and productivity by reducing the amount of time and effort required to complete certain tasks. For example, RPA can be used to automatically process transactions, respond to customer inquiries, or consolidate data from multiple sources. This can free up employees to focus on more complex, value-added tasks, and improve the overall performance of the organization.

Benefits:

- **Organizations that have implemented RPA have seen an average reduction of 25% in processing time and a 40% reduction in errors**
- RPA= ↓ labor costs and ↑ accuracy of processes
- RPA can ↑ customer satisfaction by providing faster and more accurate responses
- RPA can ↑ enhance compliance by ensuring tasks are performed consistently

Industries:

- Financial services
- Healthcare
- Manufacturing
- Retail
- Telecommunications
- Government
- Education
- Logistics and supply chain
- Insurance
- Transportation and logistics
- Energy and utilities
- Hospitality and tourism
- Real estate and construction
- Agriculture and farming
- Media and entertainment
- Agriculture
- And more...

Sample Use Cases From Our Work



Video Editing Automation



Problem:

- Editing recorded events (conferences, zoom meetings, etc.) for distribution is time-consuming and tedious
- Videographers need to listen to hours of recordings to identify footage to include



Solution

- H10AI developed an RPA solution for videographers that uses Machine Learning to identify areas in the footage to be removed, saving videographers hours in editing time

Impact:

- Reduced editing time by a factor of 25: from 2 hrs to 5 min

Tags: RPA , Data Science, Machine Learning, AI, NLP, Text



Email Triage Automation



Problem:

- Current reward systems have vast amount of emails flooding customer service and not all require attention or are properly delivered to respective departments effectively decreasing performance and efficiency in customer service and customer service representatives



Solution

- H10AI solutioned an RPA tool using NLP that triages emails based on the respective action required, dismiss, attend, etc., and delivers to the correct customer service representative

Impact:

- 10% increase in efficiency
- 40% reduction in misidentified emails

Tags: NLP, RPA, Machine Learning, Text, Data Science



Computer Vision and Image Processing

What Is it?

Computer vision is a field of artificial intelligence that focuses on teaching computers to interpret and understand visual data from the world around them. This includes tasks such as recognizing objects in images and videos, identifying faces and other features, and understanding the context and meaning of visual scenes. Computer vision algorithms are used in a wide range of applications. These algorithms typically use a combination of machine learning techniques and computer vision techniques to analyze and interpret visual data, allowing computers to "see" and understand their environment in much the same way that humans do.

Benefits:

-  Automation: By using Computer Vision to automate visual tasks, organizations can save time and resources
-  Safety: Computer Vision can be used to develop safer systems, detecting potential threats
-  Accuracy and efficiency: Computer Vision algorithms can often process visual data more quickly and accurately than humans, making them useful for tasks with large amounts of data
- Development of new applications and technology

Industries:

- Healthcare
- Manufacturing
- Retail
- Transportation
- Automotive
- Security
- Agriculture
- Robotics
- Defense
- Energy
- Environmental science
- Media and entertainment
- Sports
- Education
- Real estate
- Finance
- And more...

Sample Use Cases From Our Work



Skin Cancer Detection and Human-Augmented Decision Making



Problem:

- Skin cancer is one of the most common cancers in North America; however, general practitioners do not have the expertise to identify and assess lesions accurately



Solution

- H10AI developed a camera system and employed Computer Vision algorithms to detect, classify, and explain skin cancer

Impact:

- Achieved 85% accuracy in detection
- reduced misclassification of cancerous lesions by 16%

Tags: Computer Vision, Machine Learning, AI, Object Detection, Explainable AI, Multispectral Imaging



At-Home Fitness Analysis and Gamification



Problem:

- People who do fitness at home have a hard time knowing if their technique is correct and matches that of the instructors
- At-home fitness can be boring and monotonous



Solution

H10AI developed software that overlaid a users image onto the screen next to the instructor to check for correct technique, gamification was added to reward users for correct technique.

Impact:

- Developed unique IP crucial to the business

Tags: Computer Vision, Machine Learning, AI, Human Pose Estimation, Object Segmentation



Natural Language Processing

What Is it?

Natural language processing (NLP) is a subfield of linguistics, computer science, and artificial intelligence concerned with the interactions between computers and human (natural) languages. It involves the use of algorithms and machine learning techniques to process and analyze large amounts of natural language data in order to understand the underlying structure and meaning of the text. This allows computers to perform tasks such as language translation, text summarization, sentiment analysis, and automatic text generation. NLP is an important field of study because it enables computers to understand, interpret, and manipulate human language, which is a highly complex and nuanced form of communication.

Benefits:

-  Data analysis and decision making: NLP can be used to automatically process and analyze large amounts of text data, to extract useful insights for informed decision making
-  Accessibility and usability of technology: NLP can be used to make tech more accessible to people with disabilities
-  Accuracy and efficiency of communication
- Development of new applications and technology

Industries:

- Healthcare
- Finance
- Customer service
- E-commerce
- Education
- Marketing and advertising
- Information technology
- Transportation
- Telecommunications
- Media and entertainment
- Retail
- Manufacturing
- Energy and utilities
- Government
- Agriculture
- Travel and hospitality
- And more...

Sample Use Cases From Our Work

Aerobics Fitness Recommendation System



Problem:

- Selecting the right free fitness content that helps a user reach their fitness goals is hard
- There is too much content to sort through for users



Solution

- H10 developed an NLP-powered recommendation system that recommends various fitness influencers' aerobics videos based on the content and description of videos

Impact:

- Instant recommendations catered to user's goals

Tags: NLP, Machine Learning, AI, Text, Data Science

Document and Audio File Classification



Problem:

- Companies with vast amounts of incoming documents and transcribed audio files require documents to be summarized or triaged in order to efficiently handle the workload.



Solution

- H10AI implemented an RPA solution that used NLP to automatically identify important areas in the document for further processing and review.

Impact:

- 15% improved efficiency

Tags: NLP, RPA, Machine Learning, Text, Data Science



Robotics and the Internet of Things

What Is it?

Robotics is the branch of technology that deals with the design, construction, operation, and application of robots. Robots are typically used to perform tasks that are difficult for humans to perform or that are too dangerous for humans to do. IoT, or the Internet of Things, refers to the network of physical devices, vehicles, home appliances, and other items that are embedded with electronics, software, sensors, and connectivity, allowing them to connect, collect, and exchange data. IoT can be used in conjunction with robotics to create smart systems that can autonomously collect and analyze data to make decisions and perform actions.

Benefits:

-  Productivity: Robots and IoT devices can automate tasks and processes, thereby saving time and money, and speeding up production
-  Accuracy and precision Robots and IoT devices are able to perform tasks with a high degree of accuracy
-  Safety: Robots and IoT devices can be used to perform tasks that are dangerous for humans
-  Decision-making: IoT devices can collect and analyze large amounts of data in real-time

Industries:

- Manufacturing
- Healthcare
- Retail
- Agriculture
- Construction
- Mining
- Transportation
- Energy and utilities
- Defense and security
- Food and beverage
- Telecommunications
- Banking and finance
- Education
- Sports and entertainment
- Environmental monitoring
- Government and public services
- And more...

Sample Use Cases From Our Work



Automated Screwdriver and Machine Calibration Elimination



Problem:

- Most industrial robots require a calibration procedure in order to automate production. This involves lengthy and tedious human involvement that often takes hours



Solution

- H10AI improved an automated industrial robot that screws nuts onto screws.

Impact:

- Eliminated the 8 hour regular calibration process

Tags: Robotics, Computer Vision, AI, Visual Servoing, Object Detection



Vertical Farm Plant Analysis



Problem:

- Vertical farms are often unprofitable due to insufficient data and practical analysis on plants leading to difficulties in monitoring and caring for plants



Solution

- H10AI developed end-to-end systems to analyze plants; the algorithms composed of detecting plant quality using various modalities of data in addition to ML algorithms

Impact:

- Achieved 95% accuracy in plant detection
- Reduced plant waste by 10%

Tags: IoT, Computer Vision, Machine Learning, AI, 3D Geometry reconstruction, Data Science



Data Analytics and Data Science

What Is it?

Data analytics and data science are both broad fields that involve using data to gain insights and make decisions. Data analytics typically focuses on using a variety of techniques to analyze data sets to find patterns and trends. Data science, on the other hand, involves using a variety of methods from fields such as computer science, statistics, and machine learning to extract knowledge and insights from data.

Benefits:

- Improved decision-making: By analyzing data, organizations gain insight which leads to  efficiency
-  Productivity: by using data to identify trends and patterns, organizations can develop more effective processes and strategies
- Better customer experiences: Understand customers better to personalize marketing strategies
-  Revenue: By using data to identify new business opportunities and optimize existing operations, organizations can drive growth

Industries:

- Healthcare
- Finance
- Retail
- Manufacturing
- Telecommunications
- Government
- Transportation
- Education
- Energy
- Media and entertainment
- Sports
- Agriculture
- Environmental science
- Real estate
- Legal
- Security and defense
- And more...

Sample Use Cases From Our Work



Hockey Player Data Collection and Analytics



Problem:

- The human eye and existing hardware is limited in reviewing hockey player's performance; quality data and data collecting methods are needed



Solution

- H10AI developed human pose estimation algorithms to capture, analyze, and provide data on player performance

Impact:

- Extracted 50 datapoints used for analytics
- Leveraged the datapoints for actionable insights

Tags: Data Analytics, Data Science, AI, Computer Vision, Human Pose Estimation, Action Recognition



Lacrosse Goalie Data Collection and Analytics



Problem:

- Lacrosse is a growing sport and there is a need to provide analytics to lacrosse goalies to help them improve their performance



Solution

- H10AI developed computer vision algorithms to capture data (player metrics) and provide analytics to lacrosse goalies

Impact:

- 7% increase in player performance
- 20% increase in player development engagement

Tags: Data Analytics, Data Science, AI, Computer Vision, Human Pose Estimation, Object Tracking



General Software Development

What Is it?

Software development is the process of creating, designing, implementing, and maintaining software applications. It involves a range of activities, including coding, testing, debugging, and documenting, and can be carried out by individual developers or teams of developers working together. The goal of software development is to create software programs that are reliable, efficient, and easy to use, and that meet the specific needs of the users or customers. Software development can be applied to a wide range of applications, including business applications, web applications, mobile applications, and system software.

Benefits:

-  **Productivity:** Well-designed software can help users be more efficient and productive by automating tasks and processes
-  **Collaboration:** Software can facilitate collaboration among teams and individuals
-  **Competitiveness:** Developing custom software can help businesses differentiate themselves from their competitors
-  **Customer satisfaction**
-  **Flexibility:** Custom software can be tailored to specific needs, allowing it to adapt to changing requirements

Industries:

- Manufacturing
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- Retail
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- Media and advertising
- Agriculture
- Construction
- Defense and security
- Environmental monitoring
- Food and beverage
- And more...

Sample Use Cases From Our Work



Kids Taxi Service Platform



Problem:

- A client was running an ever-growing taxi service to deliver children from school and events
- Current solutions were fragmented leading to overworked employees



Solution

- H10AI developed a platform that integrated fleet management, booking systems, and payments all in one platform

Impact:

- Saved 20 hours a week per administrator

Tags: Software Development, Full-stack Dev, API Integration, Platform Development



Teacher Resource Management and Lesson Planning Platform



Problem:

- Teachers have difficulties managing their resources and course curriculums; the solutions are often fragmented between paper and digital copies



Solution

- H10AI developed a resource management and organization platform to help teachers manage all of their resources, create content, and manage their overall schedule and lesson planning

Impact:

- Saved teachers 2+hours a week in administration duties

Tags: Software Development, Full-stack Dev, API Integration, Platform Development

Message from the CEO



Dear valued customers,

At H10AI, we are dedicated to developing innovative solutions that push the boundaries of what is possible with AI, machine learning, robotics, and robotics processing automation. Our team is constantly working to improve and advance our technology, ensuring that we provide the highest quality solutions to our clients.

We are proud of the work we have done and the success we have achieved, and we are excited about the future of our company and the potential for even greater achievements. We believe that the solutions we have built have the power to revolutionize industries and improve lives, and we are committed to making a positive impact in the world.

We understand that our clients are looking for solutions that can help them improve their operations, increase efficiency, and drive growth. That's why we are dedicated to developing cutting-edge technology that can deliver real results.

Thank you for choosing H10AI as your solutions provider. We look forward to working with you and helping you achieve your goals.

Sincerely,

A handwritten signature in black ink that reads "Helmut Neher".

Helmut Neher
CEO@H10AI

Thank You!



**Want to learn more?
info@h10ai.com**