



## **FruitPunch AI**

Global “AI for Good” community accelerates conservation efforts with powerful, AI-primed HP Z8 workstation





## INDUSTRY

Technology

## OBJECTIVE

Build upon existing SealNet facial recognition model to enable non-invasive, cost-effective study and monitoring of harbor seals

## APPROACH

Deploy HP Z8 Workstation to create more accurate models and test large models faster

AI has the power to make our world safer and healthier, free humans from menial tasks, generate new opportunities and help make better decisions to accelerate enhanced outcomes. The potential is so great that IDC projected worldwide spending on AI technology will top \$500 billion in 2023.<sup>1</sup>

One of the biggest hurdles to fully realizing the promise of AI is a massive talent gap. Start-up FruitPunch AI aims to help bridge that shortfall by offering crowdsourced, challenge-based AI education to develop real-world skills while advancing solutions to some of humanity's greatest problems. The company further delivers value to organizations by advising on recruiting AI-savvy engineers.

Sako Arts, CTO and Co-Founder at FruitPunch AI, explained, "There is a gap between traditional education where students learn math and models, and applying AI in the real world. There simply are not enough people who know how to use AI in practice, and purpose-driven organizations can't efficiently find the ones who do. We wanted to scale our vision of teaching applied AI while making a real-world impact to the global community."

## Unshackle experts with AI

When Krista Ingram, Professor of Biology at Colgate University needed to increase the accuracy, robustness and usability of harbor seal identification using SealNet, the first marine mammal facial recognition software, FruitPunch AI issued the “AI for Seals Challenge.”

Conservation efforts require long-term monitoring of dynamic marine ecosystems but conventional methods such as tagging are often invasive, costly and time-consuming. “Harbor seals are a keystone species, an indicator of the health of entire ecosystems. Photo-based identification of seals is non-invasive but time-intensive, which limited project scale. We knew we could use AI to liberate biologists from hours spent labeling animal pictures at a computer,” Arts explained.

## Supercharged for AI

One of the most responsible companies in the IT sector, HP has a long history of investing in sustainability initiatives; bringing the company’s strengths in edge computing, data science, and AI to bear on projects such as AI for Seals was a natural fit. Together FruitPunch AI and HP Z Workstations are accelerating sustainability projects—enabling AI teams to do more good, faster.

Equipped with an HP Z8 workstation, the AI for Seals challenge team pursued two critical AI efforts: object detection to localize seal faces in a photo, and the creation of a new AI model for individual seal recognition. Arts described, “Both demanded massive compute power to train very large, advanced models in a very short period of time.

### IT MATTERS

- 2x NVIDIA Quadro RTX 8000 GPUs for compute-intensive AI model training
- Powerful compute performance for rapid iteration
- Accelerate AI project to meet aggressive deadlines

### BUSINESS MATTERS

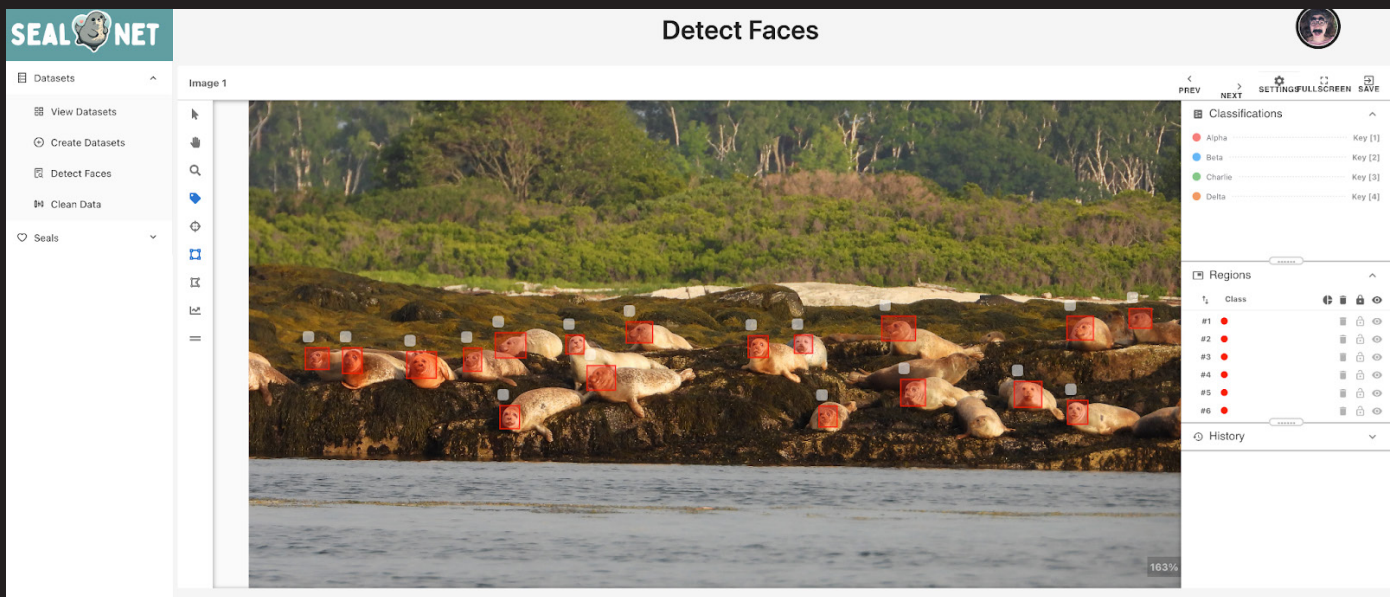
- Create software to recognize 92% of seal faces
- Free biologists from manual image labeling
- Advance wildlife conservation efforts

And because the facial recognition piece required complex engineering, we also needed to be able to experiment quickly to try as many options as possible.”

Primarily masters’ students and junior/medior engineers, challenge participants generally work from home. Typically, their personal computers don’t have the large GPUs and expansive memory required to train advanced AI models, therefore imposing restrictions on the size of the model that can be trained, and potentially taking weeks to train them. With the ability to remote-in to FruitPunch AI’s HP Z8 workstation, the team was able to do more, faster.

**“We ran over 100 experiments, ranging from 15 minutes to four hours on the HP Z8. With standard computers, that time would have stretched out to three hours to a full week. The HP Z8 delivered massive time savings”**

SAKO ARTS  
CTO & Co-Founder, FruitPunch AI



“The HP Z8, with two NVIDIA Quadro RTX 8000 GPUs, allowed the team to train large models and to experiment faster to get to a better outcome within the short 10-week challenge timeframe,” Arts highlighted.

He continued, “We ran over 100 experiments, ranging from 15 minutes to four hours on the HP Z8. With standard computers, that time would have stretched out to three hours to a full week. The HP Z8 delivered massive time savings.”

## Accelerate experimentation to realize objectives

Over the challenge period, the team processed 25,0000 high-resolution images and built high-accuracy facial detection algorithms. Arts revealed, “We were able to recognize 92% of all seals’ faces.”

“When you only have ten weeks to run complex AI, you can’t afford five days to get results from an experiment,” Arts added. “The industrial-grade processing power and memory of the HP Z8 enabled us to iterate quickly and train large models to achieve our objectives.”

Ingram echoed, “I’m amazed at the contributions the FruitPunch AI team was able to make in just ten weeks.” As a gesture of appreciation, she and her team named seals after Arts and the challenge participants.

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## ABOUT FRUITPUNCH AI

Based in Eindhoven, The Netherlands, startup FruitPunch AI is a global “AI for Good” community that aims to solve humanity’s greatest challenges. Founded in 2020 by Buster Franken and Sako Arts, FruitPunch AI is on a mission to build a worldwide community of “AI for Good” engineers to solve the world’s greatest problems. The community members, made up of students, junior engineers, and AI experts, focus on projects directly related to the United Nations’ Sustainable Development Goals such as protecting biodiversity, fighting climate change, and improving healthcare and wellbeing. FruitPunch AI has partnered with more than 50+ companies and has solved more than 50+ challenges to date.

## Amplifying impact

During the challenge, it became clear that the software FruitPunch AI was building would be deployable in a much broader sense, to make other species tracking less expensive and intrusive. “The speed and processing capacity of the HP Z8 is enabling us to expand our contributions to conservation efforts and to help biologists spend more time on higher-value priorities,” Arts said.

“Our next challenge for the HP Z8 is the AI for Pelicans project, where we will build computer vision models to detect and classify the Romanian pelican population and automate the evaluation of the breeding population. This work will enable constant monitoring and long-term data acquisition on species trends and conservation status.”



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<sup>1</sup> IDC forecasts global AI spending to go past half-trillion mark by 2023, IDC, February 16, 2022

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