AQUAEYE

Job title: Head of Machine Learning

Location: Vancouver, BC

AquaEye is a fast-growing company transforming the global water rescue industry by developing rapid-deployment, intelligent sonar solutions. Our flagship product, AquaEye, is a handheld sonar device with built-in AI detection to help first responders locate drowning victims faster and more effectively. As we continue to expand our global reach and develop new product lines, we are seeking a driven, hands-on Head of Machine Learning to own and advance innovation in our product's algorithms.

This role is central to AquaEye's core technology and strategic vision. The successful candidate will be responsible for leading ML strategy, overseeing end-to-end development, and solving some of our most challenging embedded ML problems.

Job Responsibilities

- **ML Strategy and Technical Direction**
  - Define and execute our machine learning strategy aligned with evolving product and business objectives.
  - Lead the design and evolution of signal processing and machine learning architectures for production systems.
  - Establish technical standards, best practices, and development processes for ML systems.
  - Evaluate emerging machine learning technologies and identify opportunities to enhance product capabilities and competitive advantage.
  - Provide technical leadership on architecture decisions, model selection, and system performance optimization.

- **Machine Learning Platform & Model Development**
  - Oversee the development, validation, deployment, and lifecycle management of machine learning models.
  - Oversee the design, optimization, and scalability of our signal processing pipelines.
  - Define model performance metrics and continuously drive improvements through rigorous evaluation and experimentation.
  - Ensure robustness, maintainability, and scalability of production ML infrastructure, data pipelines, and supporting databases.
  - Oversee ML Ops practices, including model versioning, reproducibility, monitoring, and continuous improvement.

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- **Data Strategy & Dataset Governance**
  - Establish standards for dataset acquisition, quality, governance, and lifecycle management.
  - Lead planning and execution of field data collection initiatives to ensure datasets meet product development and validation objectives.
  - Continually innovate on existing methodologies for data labeling, preprocessing, quality assurance, and representativeness across operational scenarios.
  - Oversee continuous expansion and refinement of training datasets to improve model accuracy and generalization.

- **Product Innovation & Cross-Functional Leadership**
  - Work alongside Product Management, Engineering, and executive leadership to define the AI roadmap and prioritize development initiatives.
  - Translate customer needs and operational challenges into innovative machine learning solutions and product capabilities.
  - Provide technical leadership during customer demonstrations, field trials, and critical deployments.
  - Serve as the organization's subject matter expert for machine learning technologies, advising stakeholders on technical direction and product strategy.

- **Team Leadership & Organizational Development**
  - Provide leadership and mentorship to develop a high performing machine learning team within the product development group.
  - Establish project priorities, resource allocation, and development plans to ensure successful delivery of strategic objectives.
  - Foster a culture of technical excellence, innovation, collaboration, and continuous learning.
  - Drive project execution through effective planning, risk management, and use of project management tools such as Jira.
  - Build organizational capability by defining engineering processes, conducting technical reviews, and promoting knowledge sharing across teams.

Required Qualifications

- Bachelor’s or Master’s degree in Engineering, Computer Science, Mathematics, Physics, or a related field
- 5-10 years of experience in machine learning, AI, and software development
- Proven track record of leading machine learning teams and delivering quality products

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- Experience with embedded ML on hardware / IoT devices
- Experience translating real-world applications and customer needs into machine learning solutions
- Strong proficiency in Python, with experience using PyTorch and Scikit-learn
- End-to-end machine learning project experience, including data pipelines,
- data cleaning, preprocessing, model design, training, validation, and deployment
- Experience with project management tools, including JIRA
- Experience working with cloud platforms such as AWS or Azure
- Strong technical communication, documentation, and organizational skills

Preferred Qualifications

- Familiarity with sonar systems and sonar data
- Familiarity with signal processing
- Familiarity with computer vision such as object detection and Fourier transforms
- Experience with IP strategy in AI innovation
- Comfort in open water settings year-round (with appropriate PPE)

What We Offer

As a company we aim to build innovative technology that puts people and their lives first. We apply the same approach to the way we run our company. We aim to pay fairly compared to other organizations of similar size in Vancouver and we reward for growth, as we grow.

- Salary range: $90,000 – $150,000
- Competitive salary and performance-based incentives.
- Employee ownership opportunities.
- Health, dental, and vision coverage.
- 4 weeks paid vacation plus company closure between Dec 24 – Jan 1.
- Flexible and dynamic work environment.
- Opportunity to directly impact the design and development of end product
- Opportunity to work on a variety of tasks and be a part of the creation process of new products

DEI Statement:

VodaSafe is a values-driven company that is deeply committed to building an equitable and diverse workforce.

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We recognize that our greatest asset is our team. We encourage each team member to be their true, authentic selves. Curiosity, ambition, humility and empathy are at the base of everything we do. We welcome diverse perspectives, educational backgrounds and experiences in order to best serve our team, our customers and our community.

Inclusion Statement:

Hesitant to Apply?

VodaSafe is an equal-opportunity employer. Throughout our hiring process, we make certain that all qualified applicants will receive consideration for employment without regard to race, ethnicity, religion, skin colour, sex, sexual orientation, gender identity, national origin, age, or disability.

Research has shown that women and people of colour are less likely to apply for a position if they do not meet all of the qualifications listed in the job advertisement. At VodaSafe, we hire for potential. We recognize that no two journeys are the same - how you have gained and collected your skillset is unique to your experiences. We want to encourage you to apply even if all criteria on the job posting are not met.

Send your application to careers@aquaeye.com with subject "Head of Machine Learning"

We look forward to hearing from you!