

# Shark Byte Systems Discusses AI in the Parking Industry

• By Michael Sharkey

**P**arking Today interviewed Michael Sharkey, Founder & CEO of Shark Byte Systems, the creator of GarageNet Video Analytics, a parking solution built on Artificial Intelligence and Machine Learning which identifies and tracks every vehicle that enters and exits a parking facility.

## **Q: How is Artificial Intelligence (AI) and Computer Vision (CV) having an impact on the parking industry?**

A: The impact of these technologies is far-reaching, similar to how social media and smartphones affect so many aspects of our lives today. Currently, technology in the parking industry consists of specialized PARCS and smartphone apps. Each solution has its merits and limitations, but neither provides the complete unified solution that owners, operators, and parkers want. GarageNet Video Analytics brings it all together by utilizing AI and CV to provide comprehensive revenue and audit controls coupled with the convenience of mobile transactions in a single solution.

## **Q: What is the GarageNet Video Analytics (GVA) solution?**

A: GVA is a suite of CV algorithms that provides vehicle analytics for business intelligence. GVA uses video to identify the make, color, license plate, state, size, direction, and speed and track the movement of every vehicle that enters/exits a parking facility. GVA operates with or without integrated revenue control functionality and can also operate in conjunction with PARCS or as an auditing tool to independently verify all traffic volumes, capacities, and events with full video analysis from any PC/Laptop, tablet, or smartphone.

## **Q: How does GVA work?**

A: As a vehicle enters a parking facility, cameras capture the event and the GVA algorithms automatically create a transaction in the form of a printed or virtual ticket. GVA issues tickets faster and more accurately than humans in valet operations and permits ungated self-park facilities where appropriate. We also incorporate gates where physical security is required. Parkers can pay via multiple payment methods (web/mobile, pay-by-plate, prepaid reservation, kiosks & cashiers, or account on file) prior to exit.

## **Q: What is the difference between GVA and standard LPR technology?**

A: Over the last decade, most LPR solutions built using early Machine Learning methodologies read license plates with accuracy of 80-90 percent under ideal test conditions. Today's AI solutions based on Deep Learning algorithms offer a major leap forward and can do much more including determining a vehicle's make, color, license plate, state, size, direction, and speed in mere milliseconds (there are 1,000 milliseconds in 1 second), and our GVA accuracy is 99 percent in real world conditions (which include low light/

night conditions, images taken at various angles, varying image size of plates, partially occluded plates, stacked plates, etc.).

## **Q: Where is GVA deployed?**

A: The majority of our GVA installations are in New York City, one of the toughest and most dynamic parking markets. We process 10,000 GVA transactions per day in self-park, valet, gated, and ungated facilities with commercial operators, real estate owners, and healthcare providers. We count two of New York's top-rated hospitals with multiple locations among our GVA customers.

## **Q: Why should parking operators and real estate owners consider GVA or other Computer Vision solutions?**

A: The industry was slow to embrace prepaid reservations, mobile payments, license plate recognition (LPR), and ticketless parking technologies as these features were not convincing enough propositions on their own.

Real Estate stakeholders recognize AI and CV as proven technologies and essential differentiators for solutions like GVA over previous PARCS. Benefits include highest accuracy, reductions of CapEx, staff, and slippage, faster entries and exits, and enhanced data.

The data acquired through the AI algorithms provides insights into customer behavior and the history of their interactions, as well as enables predictive analytics to forecast vehicle traffic given multiple factors, such as day of the week, time of day, and weather conditions, as well as dynamic pricing offerings to increase drive-ins when inventory dips below a desired level.

## **Q: What's next?**

A: AI is here to stay and will provide valuable enhancements over time. The benefits from gains in automation, speed, accuracy, and cost reduction will continue to grow and set the stage for other exciting new applications. We have developed a unique solution and are ready to take on the future.

## **Q: What's the takeaway?**

A: The 4th Industrial Revolution has begun with the convergence of technologies like AI, CV, Internet of Things, blockchain, and others digitally transforming the infrastructure, replacing the hardware of old with intelligent software of new. The data generated continues to grow and AI applications provide a 360-degree view of business insights for improving performance and customer insights for personalization and targeted marketing.

The companies that embrace digitization will win. The time to take the first step is now.

You can reach **MICHAEL SHARKEY** at [msharkey@garagenet.com](mailto:msharkey@garagenet.com)



# COMPUTER VISION & AI

## GarageNet Video Analytics

It's not the cameras . . .  
Its the algorithms



**99.7% Vehicle Recognition;** Make, Color, Plate, State, Direction, Size, Speed

