With recent advances in sensing, networking, and computing technologies, many cities have launched their smart cities plans to improve quality of life, sustainability, efficiency, and productivity. Sensor networks are essential for the intelligence needed and many new transportation-related data and computational resources are expected to come. These new assets are likely to bring in new opportunities to understand transportation systems better and address those critical transportation issues in a more thorough, accountable, and cost-effective way.

The recent wins of AlphaGo Master over the best human Go player and AlphaGo Zero over AlphaGo Master demonstrated the capability of artificial intelligence (AI) in self-learning, decision making, and optimization under complex conditions. A transportation system is complicated with road, vehicle, human, and environmental factors, making it challenging to identify optimal strategies in real-time operations and off-line data analyses using classical traffic methods and tools. There is a great potential of applying AI methods for smarter transportation decisions and applications. The speaker will share his vision and pilot research efforts at the University of Washington STAR Lab in AI applications and supporting platform development. Hopefully, this presentation will trigger more interest in AI research and applications to make transportation and infrastructure systems smarter.