Scott Chase **Waggener**

MACHINE LEARNING · DATA SCIENCE · ARTIFICIAL INTELLIGENCE

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Education

University of Texas at Austin   *Austin, Texas*

B.S. IN PHYSICS - 3.53 GPA   *Aug. 2012 - Dec. 2015*

- **Physics** - classical mechanics, electro and thermodynamics, quantum mechanics
- **Mathematics** - multivariable and vector calculus, differential equations, linear algebra, statistics
- Participated in the design and testing of a scanning tunneling microscope for the physics senior lab.
- Additional courses in biology, genetics, organic chemistry, and biochemistry.

University of Texas at Dallas   *Richardson, Texas*

M.S. IN COMPUTER SCIENCE - 4.0 GPA   *Aug. 2018 - Present*

- Intelligent systems track.
- Coursework in machine learning, deep neural networks, database design, big data, algorithms, NLP, and operating systems.

Experience

Cambria Adara Properties, LLC.   *San Antonio, Texas*

INFORMATION TECHNOLOGY   *Nov. 2008 - Jan. 2014*

- Provided service to several night clubs throughout the state of Texas.
- Maintained CCTV systems and local area networks.
- Remotely managed company computers through SSH, VNC and TeamViewer.
- Ensured compliance with payment card industry requirements.

Paladin Technologies, DBA.   *Rockport, Texas*

SOLE PROPRIETOR & SOFTWARE ENGINEER   *Jan. 2014 - Aug. 2018*

- Provided information technology services to Cambria Adara Properties, LLC. as an independent contractor.
- Upgraded ATM machine hardware and software at approximately 50 locations to ensure EMV compliance.
- Prototyped a centralized smart home control system based on the Raspberry Pi for a client overseas.
- Created circuit board designs using CAD software.
- Designed an open source digital signage solution for the Raspberry Pi.
- Developed firmware in C/C++ for the Espressif ESP8266 and ESP32.

Skills   Python, Tensorflow, C/C++, Java, Scala, Linux/BSD, SQL, Latex, AWS, Docker, Git, Hadoop, Spark, NoSQL

Projects

Tiny ImageNet Demonstrations 🔗   *Richardson, Texas*

STUDENT VOLUNTEER FOR UTD FACULTY   *May. 2018 - Sep. 2018*

- Developed scripts to produce a lower resolution version of ImageNet.
- Implemented vision networks based on Resnet and Inception-Resnet for dominant object classification.
- Achieved 53% top-1 validation accuracy in 24 hours of training using an Inception variant.

Neural Stock Prediction 🔗   *Richardson, Texas*

PREDICTING FUTURE TRENDS WITH DEEP LEARNING   *May. 2018 - Aug. 2018*

- Implemented a Tensorflow compatible preprocessing pipeline using Apache Spark capable of handling 8,000+ securities.
- Designed a convolutional encoder with an attention-based classification head to predict discretized future percent change.
- Achieved 51% overall top-1 validation accuracy, with ongoing work to examine accuracy over only high confidence predictions.

X-Ray Photography 🔗   *Rockport, Texas*

LOW COST DIGITAL RADIOGRAPHS   *May. 2016 - Aug. 2018*

- Designed an apparatus to safely capture high resolution digital radiographs using a DLSR at a low price point.
- Implemented an beam control system that included multiple redundant safety mechanisms.
- Automated the capture of radiographs using MQTT and Python to coordinate multiple pieces of hardware.
- Explored post-processing techniques to remove X-Ray induced noise from captured images.