Ravish Chawla

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Work Authorization: US Citizen

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Education

Georgia Institute of Technology – Atlanta, GA

- Master of Science in Computer Science and Machine Learning (2015 – September 2017)
  - GPA : **3.87** / 4.0 (overall)
- Bachelors of Science in Computer Science (2012 – December 2014)
  - GPA: **3.83** / 4.0 (overall, Graduated with Highest Honors)

Work Experience

VMware – Atlanta, GA

Software Engineer in Advanced R&D – Office of the CTO (Aug 2017 – Present)

- Worked on new Research and Prototype projects for the VMWare Workspace One Platform Team, developing new products and features, integrating Machine Learning into existing products, and using Data Analytics to analyze product and customer data.
- Helped engineer two new products that are now part of the official Product Offering, **VMWare Trust Network** and **Workspace One Intelligent Hub Chatbot Experience**. Part of the initial teams for both projects, which included initial architecture design and software development for multiple modules that are now part of the official releases.
- Applied knowledge of **Machine Learning** in multiple **Data Analytics** projects, including **Time Series Analysis** on streaming data, **Natural Language Understanding** on real customer data, and **Category Classification** on bulk data.
- Filed **7 Patents** as part of ongoing research and proof-of-concept implementations, ranging in different fields including Mobile Security and Management, Natural Language Processing, 3D Printing, and Voice-based Search systems.

Research Engineering Intern (May – Aug 2016)

- Worked on the Software Research Team. Researched and Developed applications of Machine Learning on new AirWatch products.
- Applied knowledge of **Machine Learning**, and experience in the **Android** Platform to develop apps that used Online Learning to learn and predict behavior of users on device sensor and status data collected from the **mobile devices**.
- Filed **2 Patents** (now approved) for developing an approach to driver and passenger classification using Sensor Data.

Zynga – San Francisco, CA

Software Engineer (Jan – May 2015)

- Worked on Cross Platform **Game development** using **Unity** Game Studio. Created and developed several services and features for the mobile game Zynga Poker as part of a team, which were released are being used by millions of users today.

Software Engineering Intern (May – Aug 2015)

Skills and Knowledge

- Experience in Machine Learning with **Python, Tensorflow, Keras, PyTorch, SKLearn,** and **Pandas**
- Experience in Analytics and Serverless Platforms with **AWS Lambda, Apache Spark**, **Google Cloud**, and **GraphQL**
- Certifications:
  - **Udacity Deep Reinforcement Learning** and **Data Scientist Nanodegrees**
  - **Coursera Deep Learning.ai Specialization**

Experience

- **Time Series Data Analytics Platform for Logging Data** *(Tensorflow, Pandas, Python-Flask, Redis)*
  - Trained Time Series models to learn behavioral patterns in streaming logs for devices. Multiple models were trained, from using continuous online data to retrain, and static models to learn from bulk data. Models were deployed on a Flask Server with a REST API to allow for retraining and with a micro-service based architecture on AWS.
- **Workspace One Intelligent Hub Chatbot Experience** *(Java-Spring, IBM Watson DialogFlow)*
  - Worked on the WS1 Chatbot for Intelligent Hub, building data connectors for content-providers, and handlers for dialogue using IBM Watson services. Helped design the architecture for the Chatbot, which is now available as a product offering from VMWare.
  - Other Natural Language work has included training models for Intent and Entity classifications, NLU on Customer Feedback data, and device-based NLP Models on iOS 13 with CoreML.
- **SafeDriving Driver Detection and Recognition application for AirWatch Research** *(Android, Java, Python, ML)*
  - Researched and implemented an application for detecting and recognizing vehicle drivers while they are using mobile devices. The application used Machine Learning to train on device sensor and GPS information, in order to build a model that can distinguish between drivers and passengers.
  - The application was built on Android with a Python Server backend. In addition to the data collection, the app was responsible for data processing, model-based prediction, and enforcement on device. The application was able to achieve higher than 95% accuracy in distinguishing drivers from passengers.

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- **Using Deep Learning to Classify Dogs and Cats** *(Python, TensorFlow, Keras, OpenCV, Weka)*
  - Designed a Convolutional Neural Network to train and classify images of Dogs and Cats. The model was built using TensorFlow library, and techniques such as Data Augmentation, Fine tuning parameters, and Transfer Learning were used to obtain high accuracy of 90% on final classification.
- **Podium – A Multi-Attribute Ranking application for GT Visual Analytics Lab** *(JavaScript, HTML/CSS)*
  - Developed a ranking system in JavaScript. The application inferred user-preferred attributes, based on how the user interacted with the rows in the app. As the user used the application, the ranking improved to align more with the user's preferred ranking preference, based on all the attributes affected by user's interaction with the app.
- **University Graduate Recommendation System** *(Python, Flask, Scikit-Learn, JavaScript)*
  - Developed an application for recommending Graduate Schools to students. The application used Machine Learning models for prediction, trained on a dataset of the colleges students applied to, their education, and college acceptance. The dataset for this application was scraped from forums and consisted of over one hundred colleges in the U.S.
- **3D Foreign Object Detection on Augmented Displays in Computer Vision** *(C++)*
  - Developed an application for Intel RealSense® camera to separate out objects in a video frame, computing 3D differences between the object and its CAD model, and displaying them by augmenting them on a Surface® Table.
- **Social Hub for Zynga Poker** *(Mono + C#, Unity 3D, PHP, Java)*
  - Developed the Social Hub, an in-game section for enabling user-communication, as part of a team for Zynga Poker. Developed important services and features for the app, including work on the Backend API and Front-end Interface.
- **Application Development in Android and Node JS** *(Android, Java, JavaScript, Python, Open Source contribution)*
  - Published several apps in Android on the Play Store (as personal projects). Worked on Node JS sites and REST APIs.