# Michael D Luong

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## Machine Learning experience

- **Machine Learning - Coursera**: Completed classic ML course taught by Andrew Ng. Learned linear regression, logistic regression, regularization, NN, SVM, unsupervised learning, anomaly detection, PCA, K-means clustering, recommender system
- **Intro to Machine Learning - Udacity**: Applied usage of scikit-learn with data collection/filtering/cleaning. Naive bayes, SVM, decision trees, model selection, regression, outliers, feature scaling, PCA, validation
- **MOOC - Fast.ai**: ML for coders, Used AWS, Tensorflow and PyTorch
- **DeepLearning AI**: Developing Deep Q-Learning NN to learn/play any complete knowledge, based on DeepMind's paper of AlphaZero. It uses a monte carlo tree search to estimate unknown states

## Experience

- **Liberty Mutual** — Boston, MA
  *Software Developer - Digital Sales* — *Oct 2015 - Present*
  - **Strategic Revenue Generation**: Designed an alternative revenue source by selling leads. Worked with third party vendors for contract negations, SLAs, and security reviews
  - **Next Best Action**: Created a model around the customer to provide a more personalized experience and to improve user satisfaction. The flow and questions would change based on user segmentation based on questions answered earlier in the interview as well as marketing cookies found on the browser
  - **Offline Handling**: Added detection, notification and orchestration of a intermittent internet connection and resumed services when possible
  - **A/B Testing**: Developed dozens of tests to validate flows, content, questions, styles, layouts, prefill and ad display. We would then use analytics to determine confidence and lift to push the winning campaign
  - **POD**: Made a modular testing framework in parallel to the main quoting application for more rapid testing. It was also a platform for proving out different technologies and seeing if they were a good fit to incorporate into the main application
  - **Condo**: Built out the condo LOB for quote and bind

- **Sinovia Health** — Boston, MA
  *Developer* — *March 2017 - May 2017*
  - **MVC**: Created a MVC for securely displaying data trends in healthcare. Used authentication from AWS cognito

- **Liberty Mutual** — Plymouth Meeting, PA
  *Software Developer - Surety* — *Jan 2011 - Oct 2015*
  - **Execute**: Lead developer of surety forms platform. Stores, searches, saves PDFs for editing, reviewing and archiving. In charge of front-end, back-end, networking, load balancing, CI/CD, database and integration with surety portfolio. Oversaw integration with new PDF renderer and SSO
  - **Reporting**: Created cron jobs which generated spreadsheets and PDFs which queried SQL Server, BD2, MongoDB and MySQL DBs. Highlighted anomalies and produced graphs of trends
  - **Advantage**: Primary surety application for WIPs, notes, data collection, and system of records
  - **Workbench**: New primary surety application to replace Advantage. Includes a more intuitive UI, email integration, data warehouse integration

- **Navteq** — Malvern, PA
  *Performance Engineer* — *May 2010 - Jan 2011*
  - **Load Testing**: Analyzed logs to model user behavior and created user models. I used those models to measure system utilization with various spikes and estimated maximum load
  - **QA Engineer**: Created applications for QA to use in repetitive or randomized testing. Generated reports when the tests finished

## Education

- **Pennsylvania State University** — University Park, PA
  *Bachelor of Science - Computer Engineering* — *Aug 2006 – May 2010*