Michel AOUN

Senior Software Engineer

California, USA

michel.c.aoun@gmail.com

+1-650-772-8380

Professional Experience

July 2018 - Present – Senior Software Engineer at Alphabet, USA
After my startup Bellgram initiated talent acquisition discussions, I was offered to join Actions on Google to work on ranking and quality of service providers on Google Assistant. I worked on:
- Leading the development of a continuous evaluation framework for conversational apps and improving the robustness of an ML system when usage data is scarce. I have mentored a new hire on this project
- Understanding user feedback and measuring conversational apps quality. I have identified classes of feedback that correlate with low quality chatbots and re-designed user surveys to collect the data with high rates of user engagement
- Transitioning the legacy ranker to a principled ML ranking system. I implemented ranking strategies, model improvements and provided in-depth analysis of the results
- Contributing to a collaborative effort between Google Assistant and Google Brain to develop an end-to-end ML trained conversational system

In Q4 2019, I became TL for the games vertical ranking and the apps quality effort

In Q3 2020, I joined Waymo to work on self-driving cars

November 2017 - June 2018 – Senior Machine Learning Engineer at Facebook, USA
I joined the News Feed Integrity team which focuses on some of the biggest challenges for Facebook in 2018 including Hate Speech, Misinformation and Polarization. I created and lead the Visual Understanding team in the Objective Content Quality group and worked on:
- Improving the labeling quality by fixing issues in workflows and guidelines
- Extending the OCR coverage to all media types on the Facebook feed
- Exploring divisive photos and identifying promising areas for the team

July 2015 - October 2017 – Software Engineer and co-Founder at Bellgram
Bellgram is a startup which provides a cloud-based business phone system. As a core engineer on the team, I have been involved in most of the strategic decisions, hiring processes and worked on all aspects of the product including:
- Directing the project to be mobile first, multi-platform and intelligent
- Developing the iOS mobile app and the desktop apps
- Designing and developing the Voip integrations with a flexible call routing configuration
- Introducing contacts ranking, transcription and a Digital Assistant in the conference call

April 2015 - Present – Owner at Acodef, LEBANON
I founded Acodef as my consulting and development agency and worked with several startups
to help them build Machine Learning solutions. My main clients included:
- Owna.io, a startup which automates the workflow of businesses who purchase
  wholesale products. I have developed an end-to-end framework to extract tabular
  information from invoice images and used deep learning to improve the OCR quality
- Amplify Masonry, a construction contracting company which develops a solution to allow
  automated takeoff from blueprints. I developed a framework capable of extracting
  relevant information and architectural patterns from construction drawings

I hired a Junior Engineer in 2017 for one year and managed him remotely through daily
meetings designed to review his progress, coordinate his tasks and help him improve his skills.

April 2014 - June 2015 – Software Engineer and co-Founder at Qutsu
Qutsu is a startup I co-founded with 3 other Xooglers. We worked on a video-conferencing
product before pivoting to Bellgram. As a core developer my contributions included:
- Making the case for a dual architecture where distribution of the live stream is done
  through Wowza and the acquisition through WebRTC
- Developing most of the web server components, integrating with the broadcasting server
  and the Flash and HLS players and minimizing the broadcast latency

March 2011 - April 2014 – Software Engineer in Ads Traffic Quality Group at Google, USA
I joined Clients & Signals team in the Ads Traffic Quality group to help protect and defend
Google Ads against various click fraud schemes ranging from human clickers to automated
botnets. My major contributions include:
- Integrating in AdSense a Javascript challenge aimed to detect automation of Ads clicks,
  proving its effectiveness against some of the most dangerous Ads fraud botnets
  including ZeroAccess and managing to remove negative impact on Ads latency.
  The project was recognized by Susan Wojcicki among Ads top 10 Engineering
  accomplishments for Q3 2012.
  After multiple attempts, I launched in Q2 2013 a filter using this new framework with an
  incremental filtering impact of $7k/day
- Launching in November 2012 one of the largest spam filters of the year to detect
  accidental and fraudulent clicks based on a signal I developed, launched and analyzed.
  Incremental filtering impact at launch was $70k/day
- Implementing and designing a solution to properly target AdSense ads when served
  from cross-domain iframes. It launched in Beta mode on several large US publishers
- Pursuing with an intern a research project I have spearheaded to leverage the
  differences between the way botnets and human users interpret advertisements

I got promoted to Software Engineer III in October 2012, received 6 spot bonuses and 6 peer
bonuses and was awarded the "Top Inspector" Ads Traffic Quality award in Q2 2013 and a "Top

Scoping result" in Q1 2014 for an innovative use of Machine Learning techniques

Sept. 2010 - Dec. 2010 – X-ray diffraction spectra classification for liquid explosives detection, GERMANY
Research internship at Morpho Detection hosted by Dr. Helmut Strecker
Improved the performance of explosive detection algorithms at high noise ratios, after comparing several machine learning algorithms, and presented promising results at the Paris based headquarters

April 2009 - Aug. 2009 – Fingerprint recognition based on 3rd level features in HR images, FRANCE
Research internship at Sagem Securité hosted by Dr. Vincent Despiegel
Investigated fingerprint recognition from partial but high resolution images through the detection and matching of skin pores, suggested an efficient algorithm to solve a graph matching problem

Educational background

Sept. 2009 - June 2010 – Master of Science in Electrical Engineering from Stanford University, USA
Depth of studies in Computer Hardware (Digital design, Parallel architecture)
Studies in Artificial Intelligence/Robotics (Machine learning, Statistical techniques, Control)
Breadth acquired in Wireless communication and Computer graphics
My school projects include:
> **Object Recognition and tracking**
> Tracking five objects in a noisy environment using boosted features dictionaries
> Won the Computer Vision Challenge organized by Dr. Andrew Ng

Received a "Software Security Foundations Certificate" from the Stanford Center for Professional Development in May 2011

Sept. 2006 - March 2009 – Engineering diploma from the Ecole Polytechnique, FRANCE
Passed in summer 2006 one of the most competitive French exams after 2 years in preparatory classes at "Lycee Prive Sainte Genevieve"
Specialized in Optimization techniques, Signal processing, and Telecommunications
My school projects include:
> **Salt and Pepper turbo-decoding**
> Improving error control performance through joint channel and source decoding to remove salt-and-pepper noise from images with the collaboration of Dr. Olivier Rioul

Other accomplishments

Sept. 2006 - March 2009 – Lebanese Students Organization in Paris
Co-founded, registered and presided for two years the "Rassemblement des Etudiants Libanais a Paris" Lebanese youth organization in France