This past year, I interned at RubiconMD, a healthcare startup in New York City. RubiconMD operates the leading eConsult platform, connecting primary care clinicians to top specialists. I would like to share three things I learned.

Technology makes healthcare more accessible and cheaper

Top specialists are concentrated in small areas in the U.S. I was delighted to learn about primary care clinicians in rural areas using RubiconMD's platform to provide care to their patients. In interviews with clinicians, we learned that they feel the platform empowers them to help their patients avoid unnecessary referrals and/or services. Doing so resolves medical issues faster, saving their patients' time and money. In some cases, clinicians were even able to escalate emergency eConsults to save the lives of patients. Everyday I worked for RubiconMD, we focused on making the platform easier to use and reducing the time it takes for clinicians to connect and communicate with a specialist.

Machine learning helps make good use of rich medical text

When creating an eConsult, a clinician will note the patient's age, medical history, symptoms, and lab results and then choose a specialty they believe to be appropriate to consult. Sometimes an eConsult is declined by a specialist because they feel it is a more appropriate question for another specialty, which slows down response times as we reroute the eConsult to the other specialty. When trying to think of ways to accelerate this process, one idea that came up was, if we could know as soon as an eConsult was submitted that it was likely to be redirected to another specialty, we could submit a copy of that consult to the second specialty right away. Fortunately, the richness of medical data in the clinician's notes provides an opportunity to apply machine learning to validate

the clinician's choice of specialty. This formed the basis of one of the projects I completed for RubiconMD: the Wrong Specialty Model. The main challenge was to use unstructured eConsult text to train a multi-class text classification model to predict the most likely specialties for an eConsult. Based on the model's predictions, RubiconMD's Operations Team can decide to wait further for a specialist's response if the model agrees with clinician's selected specialty or can send a copy of the eConsult to the predicted specialty.

Culture and mission define a startup

When I started in February, I was surprised at the diversity of personalities and cultures I encountered. It was clear to me that RubiconMD had made an effort to foster a culture that truly cultivates their employees' personal and developmental growth, stimulates intellectual conversations, and above all empowers our shared commitment to delivering better medical care to everyone because we all deserve the best services. I felt empowered to think critically about the impact of my work, ask for early feedback to constantly improve my output, and openly address any limitations so that together we could find solutions for long term improvement. I was introduced to a different world on Slack, a chat tool that the team used to share knowledge, experience, and crack jokes, nurturing a warm and close RubiconMD community. Despite the difference in physical locations and time zones, I felt close to our engineers in Spain and people in Boston and San Francisco. I am proud to be a part of the team.