# (EJ) VIVEK PANDEY

**Senior Full Stack Engineer | Data Scientist | New York City**

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## PROFILE

A Senior Full Stack Engineer and Data Scientist with almost five years of professional experience specializing in rapid prototyping, app dev, big data processing, and cloud architecture, and a year of focus in lean startups, machine learning, analytics and predictive modeling. Creator of open-source e-commerce solution Veniqa and Co-Founder of fashion retail startup Qarece. Led small engineering teams in fast-paced start-up environments to architect robust and scalable technical solutions. Worked and consulted for several American Fortune 500 companies. Proficient in a wide range of programming languages, engineering and data science frameworks, cloud computing platforms, and staying up to date on emerging technologies.

## EDUCATION

**Ramapo College of New Jersey**      Mahwah, New Jersey
B.S. in Computer Science, 3.68 GPA, 2017
**Awards:** Magna Cum Laude, College Honors Program, Presidential Scholarship, Deans List, Research Honors Awardee
**Coursework:** Artificial Intelligence, .NET Environment, Database Design, Web Apps, Network Programming, Algorithms

## SKILLS

**Languages:** JavaScript, TypeScript, Python, Java, GraphQL, SQL, C++
**Server-side Frameworks:** Node.js, Express.js, Meteor, Nest.js, Django, Flask, Serverless, .NET
**Client-side Frameworks:** Angular, Vue.js, ReactJS, React Native, Bootstrap, Material, SCSS, jQuery
**Data Science/ML Stack:** fastai, Scikit-learn, PyTorch, Pandas, Numpy, Matplotlib, Seaborn, Metaflow, Prophet, Scrapy, Jupyter
**Database Systems:** MySQL, SQL Server, Oracle, MongoDB
**Cloud Computing Platforms:** Amazon Web Services, Microsoft Azure
**Big Data Technologies:** Spark, Hadoop and Hive
**Deployment:** Dockers, CD/CI Pipelines, Git

## EXPERIENCES

**Accenture** | *Senior Full Stack Engineer and Data Scientist | Greater New York*      Apr. 2019 - Present

- Performing end-to-end functions associated with data extraction and engineering, feature engineering, predictive modeling, production-ready pipelines and server-less APIs for real time inference.
- Building, training and evaluating classification and regression predictive models using Linear and Logistic Regression, Random Forest, KNNs, K-means clustering, PCA, and Neural Nets.
- Developing server-less APIs for interactive dashboards and applications to consume the models in real time
- Building robust web crawlers to scrape data from the web necessary to train machine learning models.
- Performing cleansing, transformation, exploratory data analysis and feature engineering on scraped datasets

**Knowledgent, part of Accenture** | *Software/Big Data Engineer, Technical Lead | Greater New York*    June 2017 - Mar. 2019

- Building highly efficient, fault-tolerant and scalable technical solutions for various Fortune 500 and Global 1000 companies by providing consulting services in the roles of Software Engineer, Big Data Engineer and Technical Lead
- Lead UX/UI Engineer responsible for code ownership, design, development and maintenance of a responsive, interactive and intuitive client-side Web App from scratch using Angular 4+ and Node framework - for Kariba, Knowledgent's Enterprise Data Catalog Solution used by multiple health care and pharmaceutical industry leaders
- Contributed 95% of the codebase in Kariba's V3 client web application which is regularly used by hundreds of data stewards
- Developing efficient and robust backend REST APIs in Java Springboot for the Kariba Platform
- Mentoring new engineers joining the team, delegating tasks related to Kariba's front-end, performing code reviews, approving pull requests, co-ordinating prod builds, identifying and fixing time-sensitive bugs while coding out high priority new feature requests day-to-day
- Engineering the process of data extraction, profiling, exploratory analysis, source selection, cleansing and transformation to feed into machine learning models and master data management solutions

**United Parcel Service** | *Software Engineering Co-op | Greater New York*      May 2015 - June 2017

- Designed, developed and tested automated processes and applications using C# .NET framework to save manual efforts on environment configurations, test run scheduling, status notifications, file transfers, network traffic monitoring, etc.
- Developed testing libraries, scripts and other resources using hybrid testing frameworks for API and GUI driven automated regression testing of the WorldShip Software
- Designed and implemented a critical automated production system from scratch that validated rating data sent to customers
- Mentored junior co-ops and interns for test case re-engineering, scripting and code reviews

**Ramapo College, Virtual Reality Research** | *Research Assistant for Dr. Scott Frees | Mahwah, NJ*    Sept. 2014 - Sept. 2015

- Assisted a senior peer in developing and configuring a virtual environment using Unity3D Engine & various VR equipments
- Experimented with hybrid mobility scaling techniques to achieve low simulation sickness in virtual reality navigation

## CERTIFICATIONS

- Certified Machine Learning Specialist | Amazon Web Services                                          Apr. 2019
- Certified Associate Developer | Amazon Web Services                                                  Aug. 2017

## CONSULTING ENGAGEMENTS

**A Fortune 100 Healthcare Company** | *Senior Full Stack Engineer & Data Scientist | New York City*     June 2019 - Present
- Design and development of a next generation Contract Modeling Platform to drive down healthcare costs
- Involved in day-to-day decision-making processes for the engineering team by collaborating with managers, SMEs, engineers and stakeholders within/across teams and formulating efficient development workflows
- Developing change point detection models to perform automatic surveillance of hospital rate changes and billing practices
- Developing scalable backend components and automated services by using Python, Django and various AWS services

**Gerdau Ameristeel** | *Technical Lead, Big Data and AWS Engineer | Tampa, Florida*                   June 2018 - Nov. 2018
- Set architecture directions for the team, tracked day-to-day technical status and handled communications with stakeholders for building Machine Learning solutions to boost sales intelligence in customer segmentation, order forecasting and product recommendations
- Engineered over 70 gigs of data using Python, deployed the data pipeline along with machine learning models and a rapidly prototyped web app on AWS for productional use

**Amgen** | *Software Engineer | Portugal (Remote)*                                                     Feb. 2018 - Mar. 2018

**Scripps Health** | *Big Data Engineer | San Diego, California*                                         Nov. 2017 - Jan. 2018

**QBE Insurance** | *Big Data Engineer | Australia (Remote)*                                             Aug. 2017 - Sep. 2017

## ENTREPRENEURIAL VENTURES

**Veniqa** | *Co-Founder, CEO and Chief Engineer* |  Github Repo                                         Sept. 2018 - July 2019
- A fashion retail startup that served South Asian consumers to shop from luxury western brands
- Chief Engineer responsible for platform architecture, server-side development, devOps engineering and database modeling
- Contributed at least half of the code base for the platform with over 60k lines of code.
- Developed over 90 APIs associated with user and shopping experiences, inventory and order management
- Upon its demise, the tech platform that powered Veniqa has been re-purposed to an open source framework under MIT License

## HONORS & AWARDS

- Presidential Scholar, Ramapo College of New Jersey
- Mentor & Expo Judge - HackPrinceton 2018, Princeton University, NJ
- Guest Speaker - "How to transition into Data Science", Dataiku NYC (approx. 150 attendees)
- 1st Place (Solo Hack) - RamapoHacks 2017, Ramapo College, NJ
- 2nd Place & Best Medical Hack - LehighHacks 2016, Lehigh University, PA
- Best Use of Mashery API - HACKRU 2014, Rutgers University, NJ
- Featured Song in "The New York Times" Website: On Camera to get off the waiting list - May 11, 2013
- Presenter in three national and four regional collegiate conferences on subjects like Virtual Reality, Digital Footprints & AI
- Guest Speaker for the "EducationUSA (U.S. Educational Foundation) - Get Inspired Talk Series" in 2013 and 2017

## RAPID PROTOTYPING

**Clothing Item Detection Prototype**  |  Github Repo                                                    Nov. 2019 - Present
Exploring the application of instance segmentation to detect, localize and segment individual clothing items from overall outfit pictures. This early prototype utilizes the MASK R-CNN model. The prototype implements a custom module that allows DeepFashion2 datasets to be trained on the Mask R-CNN model. It performs the necessary annotation conversions on DeepFashion2 datasets to COCO standards, overrides the built-in methods of the model so it can operate on COCO annotation files. Training leverages a pre-trained model on COCO dataset so only the latter layers of Neural Network needs to be unfreezed and trained on DeepFashion2 datasets.
**Tech stack:** Good ol' Python with Mask R-CNN and DeepFashion2

**Tri-State Housing Price Prediction Prototype**  |  Github Repo                                         Dec. 2018
A Machine Learning Prototype implemented from scratch which includes a robust web crawler that scraped details of a million properties on Trulia, data engineering to make the scraped data usable, exploratory data analysis to understand the nature of the data and regression machine learning models to predict housing prices.
**Tech stack:** IPython, Pandas, Scikit-learn, Matplotlib, Seaborn, Scrapy

**Ava**  | *2nd Place & Best Med. Hack in LehighHacks 2016, Microsoft US Imagine Cup Semi-Finalist* |  Github Repo     Dec. 2016
A smart medical application prototype that will read your prescriptions/medicine labels and remind you to take medicines accordingly, notify your near ones and help them find you in case of emergencies, provide guidance for first responders, et cetera.
**Tech stack:** Python-Flask framework, Java-Android, MongoDB, Google Vision and Maps, Twilio, Microsoft Azure