

Benjamin Hayes

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WORK EXPERIENCE

McKinsey & Company | Boston, MA

Senior Data Scientist

Jul 2019 – Present

- Led a data science team to build prediction and optimization pipelines on Azure for regional electricity provider which increased equipment reliability (e.g., reduced outages) by 4-8% depending on operating company and asset class
- Led a data science team to train predictive model for a global chemical supplier which identified bottlenecks earlier and increased production run rate by 11%
- Built a production-ready prediction and stochastic optimization pipeline on Google Cloud for a global materials client which resulted in an annualized uplift of 6%
- Designed and deployed a fraud-detection predictive model that increased pre-payment detection rate and reduced number of payments to fraudulent claimants
- Implemented python-based NLP pipeline to analyze customer submitted documents which reduced number of processing delays and turnaround time by 45%
- Partnered with client executive and senior leaders, analytics, and IT teams to build client data capabilities
- Mentored junior data scientists to deliver impactful, actionable results and master technical data science skills
- Performed statistical analysis and causal inference for McKinsey.com industry research articles

Carnegie Mellon University | Pittsburgh, PA

Graduate Teaching Assistant

Jan 2018 – May 2019

- *Big Data & Large-Scale Computing*: Coach students as they learn Spark, MLlib, and GraphX libraries
- *Data Science & Big Data*: Mentor students as they apply Spark and data science methods on large datasets
- *Database Management*: Ensured students develop advanced SQL, relational algebra, and database design skills
- *Data Focused Python*: Developed assignments to teach students how to analyze data with Python

American Civil Liberties Union | New York, NY

Graduate Data Scientist Intern

Jun 2018 – Nov 2018

- Provided Executive Director with financial projections using ARIMA time-series forecasting in R Shiny dashboard
- Enhanced nationwide advocacy efforts by analyzing 260M rows of voter data, 70M rows of Salesforce data, and by training voter turnout and party registration predictive models (logistic regression)
- Analyzed email campaign performance to improve key metrics: deliverability, click rate, conversion rate
- Developed R Markdown reports with tailored ggplot2 visuals and automated report generation/delivery
- Automated data cleaning and merging tasks with custom-developed Python and SQL scripts

Deloitte Consulting, LLP | Harrisburg, PA

Technology Consultant

Jul 2013 – May 2017

- Facilitated requirement sessions, workshops to lead key client stakeholders to reach important decisions
- Analyzed impacts of business process changes on three custom-developed applications combining for over 1,250 screens, 215 reports, and 46,500 active monthly users
- Led teams of developers and testers ranging in size from 4 to 14 people to implement design changes

EDUCATION

Carnegie Mellon University | Pittsburgh, PA

Aug 2017 – May 2019

Master of Science in Public Policy & Data Analytics (M.S., 3.98 GPA)

- *Key Courses*: Machine Learning, Data Science & Big Data, Unstructured Data Analytics, R Shiny for Operations, Data Focused Python, Econometrics I & II, Operations Research I & II, Database Management, Managing Analytics Projects

Pennsylvania State University | University Park, PA

Jun 2009 – May 2013

Bachelor of Science in Information Sciences & Technology (B.S., 3.70 GPA) with a minor in Telecommunications

SKILLS & EXPOSURE

Programming Languages: Python, R, SQL, PySpark, Scala, Java, JavaScript, Matlab, HTML/CSS

Tools and Frameworks: AWS, Azure, GCP, Git, Tableau, Sci-kit Learn, Pandas, PyTorch, Databricks, R Shiny