Benjamin E. Noland

benjaminnoland93@gmail.com
https://github.com/bnoland
https://www.linkedin.com/in/benjamin-noland-735217118/

Education

- **MS in statistics, Rutgers University**, New Brunswick, NJ (with honors)
  September 2017–May 2019
- **BA in mathematics, Rutgers University**, New Brunswick, NJ (with honors)
  September 2012–May 2016

Skills

- **Proficient:** Applied statistics and machine learning, R, Python, C, Java, LaTeX, Linux, Git, Google Cloud Platform
- **Experience:** Amazon Web Services, MATLAB, Stata, C++, CMake, JavaScript, HTML, CSS, PHP, MySQL, x86 assembly language, Rust

Experience

Research Engineer
Mem Protocol, Inc.
San Francisco, CA
May 2021–March 2022

- Was the first non-founding employee at the company.
- Managed a BigQuery database containing information about transactions on the Ethereum network. Wrote SQL queries to extract data for a social web application. Applied database optimizations to cut query times in half.
- Designed and prototyped the architecture for a system for managing decentralized identity online.
- Made technical presentations to investors.
- Mentored junior software engineers. Provided general troubleshooting and advice.
- **Skills used:** SQL, software engineering

Research Associate
C2SMART, Department of Civil and Urban Engineering, New York University,
New York, NY
August 2020–July 2021

- Worked on the Capital Program Resource Model (CPRM) project at C2SMART.
- Worked towards development of a means for assessing the effectiveness of teams working on projects under the auspices of the New York State Department of Transportation (NYSDOT) by examining project outcomes.

- One of the major goals of the project was to help NYSDOT improve project outcomes through effective allocation of resources (staff, consultants, etc.) to projects throughout the state.
- **Skills used:** R, data processing, statistics

Part-time research assistant
Rutgers Infrastructure Monitoring and Evaluation Group, Department of Civil and Environmental Engineering, Rutgers University, New Brunswick, NJ
June 2019–November 2019

- Used R to process and manage data on bids made by contractors for construction jobs nationwide, using data from the Bid Express bidding service.
- Assisted in research investigating bid price distributions and forecasting future bid prices. Included extensive exploratory analysis, including producing visualizations using ggplot, along with analysis of the time series of bid prices using standard R modeling tools.
- Assisted in writing a report for the New Jersey Department of Transportation on bid price distributions for construction bids statewide. The report was written in RMarkdown, and the process automated using the drake R library.
- **Skills used:** R, data processing, statistics

Part-time research assistant
Alan M. Voorhees Transportation Center, Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, NJ
June 2018–July 2018

- Used R and the Elsevier Scopus API to scrape roughly two-decades worth of abstracts from articles published in transportation-related journals. The goal was to determine whether writing quality in these journals has degraded or improved with time.
- The scraped data was cleaned using R and fed into the Coh-Metrix system, developed at the University of Memphis to analyze linguistic cohesion among a collection of text corpora.
- No conclusive results from this brief study, but open to further investigation.
- **Skills used:** R, data processing

Part-time research assistant
School of Management and Labor Relations, Rutgers University, New Brunswick, NJ
May 2018–May 2019

- Designed and implemented a web application using R and Shiny to explore the unionization trends of registered nurses in the United States using Current Population Survey (CPS) data.
- Included extensive preprocessing of the raw data using R.
- The application allows the user to select, aggregate, and visualize the data to explore union membership and union contract coverage rates. The application was built using the Shiny framework, with visualizations done using ggplot.
- Wrote extensive documentation for the tool, formatted using LaTeX.
- The tool is currently in use by the School of Management and Labor Relations at Rutgers and other interested parties to analyze unionization trends among registered nurses in the United States.

- The application is currently available at:

  `https://smlr.rutgers.edu/content/nurse-unionization-data-tool`

- **Skills used:** R, Shiny, data processing

Programming intern
Alan M. Voorhees Transportation Center, Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, NJ
June 2016–November 2016

- Formulated heuristic methods for detecting possible groups of riders in Citi Bike trip data.
- Designed and implemented R scripts to process the raw data and implement these methods.
- Implemented a website for visualizing the results of this study, using Google Fusion Tables to store the processed data and the Google Maps API to visualize it.
- **Skills used:** R, data processing, HTML, CSS, JavaScript, SQL

Programming intern
Vertices, LLC, New Brunswick, NJ
May 2015–August 2015

- Worked on Mappler, an online geographic information system (GIS) tool. Designed and implemented a feature that allows users to upload images, extracts GPS data from the images, and adds them to the map database. Used PHP for the backend code, and JavaScript for the frontend.
- Implemented a daemon in Python for extracting images and associated GPS data from email accounts and adding them to a map database.
- **Skills used:** HTML, CSS, JavaScript, PHP, Python, SQL

Programming intern
Alan M. Voorhees Transportation Center, Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, NJ
July 2014–August 2014

- Designed and implemented a website that maps crashes involving vehicles and pedestrians (including bicyclists) using data provided by the New Jersey Department of Transportation.
- The site allowed the user to submit search queries to filter the data. Google Fusion Tables was used to store the data, and visualization was done using the Google Maps API.
- **Skills used:** HTML, CSS, JavaScript, SQL