Sandeep Tiwari

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EDUCATION

University of Washington **March 2022**
(Incoming) Master of Science (MS) in Data Science

University of California, Berkeley **August 2019**
B.A. Data Science and Applied Mathematics

***Relevant Coursework*:** Fundamentals of Data Science, Discrete Math and Probability Theory, Data Structures, Introduction to Programming, Efficient Algorithms and Intractable Problems, Databases, Introduction to Artificial Intelligence, Applied Data Science with Venture Applications, Principles and Techniques of Data Science, Multivariable Calculus, Numerical Analysis, Real analysis, Introduction to Economics, Economic Statistics and Econometrics, Concepts in Cloud Computing (Coursera)

SKILLS

Technical: **Python, R, Java, SQL**, Pandas, NumPy, Scikit, Linux, **MATLAB**, Stata, Machine Learning, Markdown, Data Visualization

WORK EXPERIENCE

Support Vectors | Fremont, CA **August 2019–*present***
Data Scientist

- Working on R&D projects that help extract actionable insights from data. This includes investigations into specific domains of knowledge, both extension of existing machine-learning algorithms to the specific domains as well as the creation of new methods necessary to investigate the domain data.

Rebis, Inc. | Palo Alto, CA **January 2019–August 2019**
Software Engineer

- Part-time position at stealth-mode startup, writing scripts that access APIs for social media platforms to generate profiles within Rebis' platform
- This data would be used to generate video recommendations to user based on interests (inferred from data), through AI-driven mobile recommender system

Snipfeed | Berkeley, CA **September 2018–December 2018**
Software Engineer

- Part-time position developing recommendation algorithm for Snipfeed's news engine on various messaging applications

QT Ultrasound, LLC | Novato, CA **June 2018– August 2018**
Machine Learning Research Intern

- Employed unsupervised learning, deep learning, and computer vision in applied Generative Adversarial Networks to generate realistic ultrasound images across modalities. This data augmentation results in sharper imaging facilitating more accurate detection of breast tumors, using Pytorch and NVIDIA GPUs. Helped develop image segmentation algorithm—intended for tumor detection.
- We currently have patent pending on the application of this technology

Berkeley Institute of Data Science | Berkeley, CA **January 2018–May 2018**
Undergraduate Researcher

- Processed articles using web app to describe interactions between police and protesters during Occupy movement. Data was used to find patterns of peace and violence which can shift behavior on both ends. The goal was to create an artificial intelligence engine that can understand dynamics and recommend most beneficial and peace-driven policies

Fujitsu Network Communications | Sunnyvale, CA **June 2017 –August 2017**
Software Engineering Intern

- Part of FNC's Tiger-HA team, developing a full-stack application for integration into Virtuora Network Controller, based upon logging various RPC calls and XML data for networks on scale of thousands of nodes.
- Used Python scripts and Flask framework to scrape key network events from backend logs to display onto custom-built user interface
- Introduced use of ElasticSearch in the network controller and integrated it into the UI
- Using Virtuora Network Controller, Elastic Search, Python, JavaScript, Flask, ExtJS, XML, JSON, RPCs and REST frameworks

PROJECTS

UW COVID Data Science Hackathon 2020 | Seattle, WA **June 2020**

- Winner of the inaugural Data Science hackathon hosted by the MSDS program at UW in the data visualization/dashboard category
- Using Python and Tableau, worked with remote team to generate visualizations that compare and analyze how COVID-19 has affected countries across the globe, and gain insights into how it is spreading

Dynamic Time Series Algorithm for Predicting Long Term Energy Prices | Berkeley, CA **January 2018 – May 2018**

- Built a dynamic time series model that predicts energy price trends by evaluating risks in developing renewable energy infrastructure, with an emphasis on long-term accuracy and adaptability to significant economic events. Through multiple iterations of linear regression and ARIMA, created highly accurate price predictions.
- Input comprehensive dataset of energy prices over last 15 years with formulated auto-regressive integrated moving averages (ARIMA) model, with detailed features enabling adaptability and long-term prediction.
- Used Pandas and BeautifulSoup to scrape and process data, as well as to construct models

Inference and Capital Punishment | Berkeley, CA **February 2017**

- Investigated relationship between capital punishment and murder in the United States
- Used hypothesis testing, bootstrapping, etc. to determine if the existence of capital punishment is negatively correlated to murder rates

LEADERSHIP AND EXTRACURRICULARS

Fundamentals of Data Science (Data 8) | Berkeley, CA **August 2017–December 2017**
Teaching Assistant / Undergraduate Student Instructor

- Taught fundamental data science concepts to class of 50 students over the course of a semester. Concepts taught include hypothesis testing, p-value tests, confidence intervals, and bootstrap sampling, using Python
- Tutored undergraduate students with advanced math concepts outside of class hours and helped them in dealing with logistical and technical issues with homework assignments and projects

Sports Analytics Group at Berkeley | Berkeley, CA **February 2017–December 2017**
Data Analyst

- Using Python and R data analysis libraries to scrape, clean, process sports data for different studies.
- Parsed large, unstructured data using Python, and built models to forecast expected statistics and trends

Mathematics Tutoring | Berkeley, CA **October 2015 – May 2017**
Undergraduate Tutor

- Tutored undergraduate students in advanced and complex concepts in Calculus 1, Multivariable Calculus, and Linear Algebra.