Sarthak Patipati

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EDUCATION

University of Illinois at Chicago **Dec. 2023**
Bachelor of Science, Computer Science

SKILLS

Languages: Python, JavaScript ES6+, HTML5, CSS3, SQL, Java, C++, C, Bash
Tech Stacks: React.js, Node.js, Angular, Spring, JDBC, PostgreSQL, MongoDB, Express.js, Bootstrap, EJS, Heroku
Additional Skills: UI/UX, RESTful APIs, Git/GitHub, Agile Methodologies, Networking, DOM Manipulation, Unix/Linux Command Line, Responsive Design (Flexbox, Grid), Encryption & Security, Data Modeling & ORM, Concurrency

EMPLOYMENT

Complex and Sustainable Urban Networks Laboratory **June. 2022 – Dec. 2023**
Research Assistant *Chicago, IL*

- Led an energy consumption project, directing efforts in correlating energy usage with unique land-use types to unravel usage patterns, providing valued insights to influence energy management and urban sustainability goals
- Analyzed critical geographical and land-use predictors for urban energy consumption using machine learning
- Optimized a sentiment analysis framework using PyTorch and TorchText, trained on a labeled dataset of tweets, significantly enhancing the lab's ability to gauge social media sentiments during important events, thereby improving response strategies and insights into public opinion

PROJECTS

Endangered Species Analysis **Dec. 2023**
Developer *https://github.com/uic-ds-fall-2023/endangered-species-analysis-datax/tree/main*

- Led the aggregation and transformation of 150,000+ data points across 50+ DBF files, utilizing data wrangling and ETL techniques to curate a detailed dataset of 1,000+ mammal species from IUCN Red List and Zenodo
- Developed an integrated data model by merging 40+ ecological attributes using Python and SQL, creating an analytical platform for geospatial analysis and predictive modeling, aiding in mammal endangerment research

Energy Consumption **June. 2023**
Developer *https://github.com/sarthak-p/EnergyConsumption*

- Utilized geospatial mapping and statistical analysis techniques to analyze 30,000+ residential energy accounts in Chicago, uncovering key consumption patterns, trends, and correlations across 40+ significant features
- Engineered predictive models using RandomForest and XGBoost, tailored to correlate energy usage with 50+ land-use types, thereby optimizing for sustainable urban development goals, a key step in smart city initiatives

Fitness and Nutrition Buddy **Jan. 2023**
Developer *https://github.com/sarthak-p/Fitness-NutritionBuddy*

- Led the design and development of a robust Java-based nutrition app, encompassing goal setting, meal planning, restaurant search, and intake tracking, integrated into an SQL database for streamlined user experience
- Executed project within a tight 4-month timeline using agile methodology, delivering periodic releases and merging front and backend to achieve specific project goals, ensuring responsiveness to changing requirements

Commute Sent **June. 2022**
Developer *https://github.com/sarthak-p/CommuteSent*

- Assisted in curating a sentiment analysis (SA) model for telecommuting, meticulously labeling 11,825 tweets to determine positive or negative sentiment, shaping the model's foundational training data during Covid-19 era
- Actively monitored the model's performance, achieving up to 87.05% training accuracy, and pivotal code optimizations, enhancing its predictive capabilities, especially during periods of significant data volume changes