

Sudeep Basnet

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SUMMARY

Dedicated, career-oriented individual with 4+ years of professional experience, interested in Software Development tied to Data Analytics and Artificial Intelligence. Master's in Computer Science. Redesigned codebase and automated data-processing at previous employment resulting in gains around 40-60%, was awarded for performance and teamwork.

SKILLS

Programming: Python, Java, R, JavaScript, SQL, HTML/CSS
Other Technical: GIT, Systems Administration (UNIX), Data Analysis, Predictive Modelling, Matplotlib, Bokeh, Django, Node, React, Project Management, JIRA, Database Development

EXPERIENCE

Graduate Research and Teaching Assistant | Jan 2017 – Aug 2019

University of Nebraska – Lincoln (UNL)

- **Agent-based Simulation Design.** Developed an ABM simulation model to simulate and predict social unrest on a geographic and temporal scale, in *Repast Java*. (<https://github.com/sudbasnet/SocialUnrestMAS>)
- **Data visualization, development and management** of PHP backed **web application**, uses *HTML/CSS*, *KnockoutJS*, *Google Maps JavaScript API* and *MySQL* database. (<https://cse.unl.edu/~surge/>)
- **Research Scientist.** Utilized agent-based modelling to study social unrest built on behavioral social science models. Developed a scalable variant of DBSCAN algorithm in *Python* to cluster GIS (spatiotemporal) data. Published a research paper. (<https://github.com/sudbasnet/spatiotemporal-kdTree>)
- **Data Mining, Data Analysis and Data Management** using *Python*, *R* and *Java*, utilizing parallel computing on Nebraska's second-fastest High-Performance Computing servers.
- **Prepared C++ Tutorials and Lab Assignments** of Network Simulations in ns3 to teach about TCP, DP, IP, ICMP, MAC, OSI layers.

Sr. Software Engineer – Data Operations | July 2012 – Dec 2016

Cotiviti Nepal Pvt. Ltd. | Kathmandu, Nepal | (Subsidiary of COTIVITI INC, Waltham MA)

- **Developed** *Java* based application and *Oracle* databases (PL/SQL), stored procedures, functions and triggers to create ETL scripts, tools, queries and applications used for healthcare data management, data validation, statistical report generation, and program validation.
- **Data Analysis** of US healthcare data (HIPAA protected medical data) in *Oracle (PL/SQL)*. Applied statistical, predictive modeling and data mining techniques to support analytical solutions.
- **Led** multiple teams of Software Engineers through different projects for two years.
- **Optimized** several large clients by 40 – 60% in processing time, by implementing parallel processes and re-designing backend jobs (*PLSQL* and *Java*).
- **Awarded** with "Team of the Quarter - 2015", and "Verisk Way to Go -2014" for performance.

EDUCATION

Master of Science, Computer Science (GPA: 3.8) | Jan 2017 – August 2019

University of Nebraska – Lincoln, NE, USA

- **MS Thesis:** Analysis of Social Unrest Events using Agent-based Simulation and Spatiotemporal clustering
- **Relevant Courses:**
Design and Analysis of Algorithms, Data Structures, Machine Learning, Systems Administration, GIS

OTHER INTERESTS AND PERSONAL PROJECTS

Personal Website (work ongoing) <http://www.sbasnet.com/>
Built in MVC framework using Django; front-end with React.js and Phaser III HTML5 game framework.

Machine Learning and AI <https://github.com/sudbasnet/machine-learning>
<https://github.com/sudbasnet/NeuralNetwork>

HaliteIII Online AI Challenge (top 10%) <https://github.com/sudbasnet/halite3>