

# ABDERRAHMAN N. SOBH

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## Work Experience

Software Developer at University of Illinois Urbana-Champaign (UIUC), (2012 – Present)

### GUI Workflows (Python, TCL, Fortran, Rappture for XML)

- Created a set of GUIs to replace entirely text-based programs.
- Optimized memory handling and run-time for functions on millions of entries.
- Distributed parallel tasks for coding procedures.
- Visualized large sets of scientific data.
- Combined applications within one virtual container for a single user experience.

Discrete Dipole Scattering Simulation Workflow (“nanoDDSCAT+”)

(<https://github.com/NanoBioNode/nanoDDSCATplus>)

(<https://nanohub.org/tools/ddaplus/>)

Molecular Dynamics Simulation Setup Workflow (“Functionalization Workbench”)

(<https://github.com/NanoBioNode/InorganicBuilderPlugin>)

(<https://nanohub.org/tools/partsub/>)

### Web Database (PHP, HTML, MySQL)

- Created webpages allowing users to save varied data formats to MySQL db.
- Provided graphical views of data from the MySQL db.

([https://github.com/NanoBioNode/ISU\\_website\\_PublicVers](https://github.com/NanoBioNode/ISU_website_PublicVers))

## Personal Experience

### Exposure to Data Science

- Member of Data Scientist Engineers Project Group Meetup (2016-Present)
- Member of New York Open Statistical Programming Meetup (2012-2013)

### Kaggle Data Science Competitor (Python/Pandas, GraphLab, scikit-learn, XGBoost, AWS)

- Cleaned data sets, normalized data, predicted missing values.
- Used NLP, clustering to investigate text features.
- Performed feature selection and created models to predict new data values.
- Used Amazon Web Services for parallel data processing workflows.
- Received public recognition for open-sourced script (aka a “Kaggle Kernel”)

(<https://github.com/itg-abby/KaggleScripts/>)

### Auto Level-Creator for “Stepmania” Dance Video Game Emulator (Python)

- Analyzed music/time series and mapped relevant features to a timing signature.

(<https://github.com/itg-abby/StepGen>)

## Technical Skills

Languages/API	Python*, Spark, TCL*, C++, C, JS, Fortran90	(High-Level)
	PHP, XML, HTML, CSS, MySQL/NoSQL/SQL	(Web/Database)
	Tableau, R, SAS, Matlab, Mathematica, VBA/Excel	(Statistics)

\* = High Proficiency

Operating Systems (all generations/versions): Windows, Linux, OSX

## Education

BS in Statistics, May 2012, University of Illinois, Urbana-Champaign, IL

ACHIEVEMENTS: Dean’s Honor List (2008), (2012)

RELEVANT COURSES:

- Advanced Data Analysis
- Statistical Data Management
- Applied Regression and Design
- Biostatistics
- Computer Engineering
- Applied Linear Algebra