

# Matthew Downs

matthewrdowns@gmail.com

## EDUCATION

### UNIVERSITY OF KENTUCKY

#### BS IN COMPUTER SCIENCE

Completed May 2015 | Lexington, KY

GPA: 3.6

College of Engineering

Dean's List (Spring 2013, 2014, 2015)

### APPALACHIAN STATE UNIV

#### BSBA IN ECONOMICS

Completed June 2009 | Boone, NC

## SKILLS

### PROGRAMMING

Python • Java • C#

C • C++ • PHP

### CLOUD (AWS)

Redshift • DynamoDB • Lambda

API Gateway • Kinesis • EC2/ECS

CloudFormation • S3 • Athena

### DATABASE

MS SQL Server • MySQL • PostgreSQL

MongoDB • SQL Server Integration

Services (SSIS)

### BIG DATA

Apache Spark • Hadoop

Apache Drill • Informatica

### WEB DEVELOPMENT

HTML5 • CSS • Flask

jQuery • JavaScript

## COURSEWORK

### COMPUTER SCIENCE

Software Engineering

Logic + Theory of Computing

Artificial Intelligence

Operating Systems

Compilers

Algorithm Design + Analysis

Computer Graphics + Multimedia

### ECONOMICS

Intermediate Price Theory

Cost Benefit Analysis

Organizational Behavior

Negotiation + Conflict Resolution

Strategic Management

## LINKS

Github:// [lifeofabit](#)

LinkedIn:// [matthewrdowns](#)

## EXPERIENCE

### SEMANTICBITS | DATA ARCHITECT

Jan 2019 – Current | Lexington, KY (Remote)

- Responsible for Analytics + Reporting architecture for the Center of Medicare/Medicaid Service's Alternative Payment Models service.
- Performed data modeling based on client requirements and built database schemas for our Postgres Data Warehouse.
- Wrote ETL's using Python to transform and load data into the Data Warehouse. Extracted data from data sources including Mongo, Teradata, and flat files.

### BIG ASS FANS | DATA ENGINEER + DATA SCIENTIST

May 2015 – Jan 2019 | Lexington, KY

- Created a real-time data infrastructure for Internet connected fans and lights using AWS Lambda, Kinesis, and S3. Developed batch ETL jobs to populate a Parquet data lake in S3 and load a Redshift Data Warehouse using Apache Spark.
- Helped build and administrate a SQL Server Data Warehouse consisting of data from Sales, Operations, Marketing, and HR. Updated core warehouse architecture to be more flexible and give better quality of life.
- Wrote ETL for the Data Warehouse using SSIS. Sourced Marketing and HR data using platform REST API's and Python requests.
- Created ETL to connect CRM and Marketing data for campaign attribution and developed five different marketing attribution models.
- Developed a Natural Language Processing framework on product and customer feedback text data. Wrote a Python library to consume text data from various data sources, serialize into a Pandas dataframe, perform various NLP and machine learning tasks.
- Implemented classification algorithms on feedback data to determine where the feedback is associated in the customer journey (multi-class) and if the business needs to take action (binary). Created labels from business units and subject matter.
- Conducted sentiment scoring using AWS and IBM Watson REST API along with other open-source Python libraries. Deployed real-time scoring, classification, and storing data by using web hooks from our survey provider, a Python Flask REST API on EC2, Kinesis Firehose, and Redshift.
- Performed an RFM analysis on our customers to provide customer segmentation. Deployed a real-time scoring architecture using AWS SAM (API Gateway, Lambda, CloudFormation, Code Pipeline) and update our CRM in real-time.

### ARCHVISION | SOFTWARE ENGINEERING INTERN

May 2014 – May 2015 | Lexington, KY

- Built a SQL Server Data Warehouse from eCommerce, Application, and Marketing data
- Developed a C# .NET web application to visualize data and statistical calculations. Maintained C# .NET company website.

## ACADEMIC PROJECTS

### RACING GAME | JAVA OPENGL

Completed Dec 2014

- Built using Java + OpenGL API (JOGL)
- Used Separating Axis Theorem for collision detection
- Voted best program by classmates