Dev Nalwa
FULL-STACK DEVELOPER

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Education

Grinnell College | B.A. Computer Science & Statistics *Grinnell, IA*
RELEVANT COURSES: *Aug. 2016 - May 2020*

- Object-Oriented Design • Data Structures & Algorithms • Artificial Intelligence • Discrete Structures • Data Mining • Analysis of Algorithms • Software Development & Design • Statistical Modelling • Operating Systems & Parallel Algorithms

Skills

Languages: Java • Python • JavaScript(ES6) • HTML5 & CSS3 • C • C# • C++ • R

Technologies/Libraries/Frameworks: Git • Android • Unity • React.js • Node.js • Firebase • ElasticSearch • Express.js • MongoDB • MySQL • Tensorflow • Keras • Visual Studio/VS Code • Rails

Related Experience

STATGAMES: Making Data Driven Decisions | Game Developer *Grinnell, IA*
UNDERGRADUATE RESEARCH PROJECT AT GRINNELL COLLEGE, BACKED BY THE NSF *May 2019 - Dec. 2019*

- Engineered a **multi-level**, story based **3D** car **racing game** utilizing **Unity** and its **3D physics**.
- Designed every aspect of the game including cars, engines, tires, and tracks using scripts written in **C#** and integrated **AI controlled cars** using custom way-points.
- Implemented a visual data page with **interactive** graphs/plots and various filters by displaying game data that is sent to a **MySQL database** on **cPanel** in real time and can be viewed/downloaded.
- **Improved** overall car speed by **24%** with a top speed of 150/mph by running **ANOVA** on different attributes to determine what effected car speed most significantly.

Grinnell AppDev | Android Developer *Grinnell, IA*
TEAM OF DEVELOPERS, MAINTAINING 6 APPS WITH 1000+ DAILY USERS & $50K+ FUNDING *Jan. 2018 - Dec. 2019*

- Designed, engineered and published the **Grinnell Events** App, using the **Android SDK**.
- Utilized the **XMLPullParserFactory** class in order to parse XML data from a live online file and display it on the app.
- Improved event turnout by nearly **17%** and saw a steady increase in number of events posted every week.

Capital Quant Solutions | Software Developer Intern *New Delhi, India*
FINTECH STARTUP FOCUSED ON PROVIDING ANALYTICS FOR CAPITAL MARKETS *Jun. 2018 - Aug. 2018*

- Built a training data set for **ML algorithm** that required sorting and categorizing large volumes of unstructured data.
- Developed a **Python** program, using the **Twitter API** in order to pull current tweets mentioning client organizations.
- Conceptualized and engineered a python ML algorithm to analyze unstructured data using **multi-class classification**.

Projects (On Github)

Amazon Clone
FULLY FUNCTIONING E-COMMERCE PLATFORM (HTTPS://CLONE-F2299.WEB.APP/) *Sep. 2020*

- Built a progressive web application using **React** for the front-end and **Node** and **Express** for the back-end.
- Sign-up and **authentication** functionality is present with the integration of **FirebaseAuth** and **cloud functions**.
- App is deployed on **Firebase** with it also handling the **database** in real time such as users orders and email.
- **Checkout payment** is built in with the help of the **Stripe API** and can be tested by repeatedly typing 42 for card details.

IMDB Reviews | Sentiment Analysis
ARTIFICIAL INTELLIGENCE

- Built a **deep learning** model using the **keras** library to predict if an IMDB movie review was positive or negative.
- **One-hot encoded** categorical data to turn them into vectors of 0's and 1's to pass into a **neural network** with a stack of fully connected **dense layers** with **ReLU** activations.
- Improved accuracy of model by **10%** by increasing number of **epochs**, adding a **sigmoid** activation to the last layer, decreasing number of **hidden units** in layers, removing a layer and **weight regularization**.

kNN Algorithm
MACHINE LEARNING/DATA MINING

- Implemented the k nearest neighbors algorithm in Python, utilizing the **Pandas, Numpy and Collections** libraries in order to **predict** if an adult earns more than $ 50K based on labelled Adult Census data.
- Found k nearest neighbors by creating a function to turn categorical variables into numeric values in order to implement the kNN algorithm by calculating euclidean distance of all points.
- Found the best value of k which maximised the accuracy of **5-fold cross validation**.

Heartland Global Health Consortium
RAILS WEB APPLICATION DEPLOYED WITH HEROKU

- Developed a web application utilizing **Ruby on Rails** and an **Agile** approach to help connect 12+ Iowa Colleges to increase awareness about global health issues.