# Dev Nalwa

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## Education

**Grinnell College | B.A. Computer Science & Statistics | Major GPA: 3.7** *Grinnell, IA*

**Relevant Coursework:** *Expected May 2020*

- Object-Oriented Design • Data Structures & Algorithms • Artificial Intelligence • Discrete Structures • Data Mining • Analysis of Algorithms • Software Development & Design • Statistical Modelling • Design/Analysis of Experiments.

## Skills & Interests

**Programming Languages:** Java • Python • C • C# • R • HTML & CSS • Javascript
**Technologies:** Git • Android • Unity • MySQL • Ruby on Rails
- **Other Interests:** Basketball • Drums • Debate • Technology

## Related Experience

**STATGAMES: Making Data Driven Decisions | Computer Science Researcher** *Grinnell, IA*

Undergraduate Research Project at Grinnell College, backed by the NSF *Jun. 2019 - Present*

- Engineered a multi-level, story based 3D car racing game using Unity and its 3D physics engine.
- Designed every aspect of the game including car, engine, tire, tracks and the story line using scripts written in C# and also implemented a buy/sell feature for upgrading different car parts.
- Integrated basic AI controlled cars by setting up specific way points, speed and car handling.
- Implemented a visual data page by pulling data from a MySQL database in real time on cPanel, creating graphs that display finish time based on different attributes.

**Grinnell AppDev | Senior Android Developer** *Grinnell, IA*

Team of developers, maintaining 6 apps with 1000+ daily users & $150k+ funding *Jan. 2018 - Present*

- Engineered, designed and maintained 6 Android apps with 1000+ daily users, using Android Studio, utilizing java code.
- Designed and developed the **Events** app for 1500+ community members, that pulls all its data from a XML file.
- Taught weekly classes in beginner level Android Development to 15+ student developers.

**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 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.

**Grinnell College (Computer Science Dept.) | Teaching Assistant** *Grinnell, IA*

Assisted the professor with organizing the structure and the content of the class *Aug. 2018 - Present*

- Graded quizzes, assignments and exams for 40+ students enrolled in the Java course.
- Led weekly mentor sessions for 25+ students to discuss Object Oriented Design, Data Structures & Algorithms, etc.

## Projects

**IMDB Reviews | Binary Classification**

Artificial Intelligence

- Built a deep learning model using the keras library to predict if an IMDB movie review was positive or negative.
- Investigated hyperparameters such as number of epochs, learning rate and batch size to train the best model.

**kNN Algorithm | Classification**

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 using euclidean distance Created a function to turn categorical variables into numeric values in order to implement 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**

Heartland Website

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

**Object Oriented Programming, Data Structures & Algorithms**

Coursework (On Github)

- **Sounds Of Sorting:** A sorting algorithm which visualizes six sorting algorithms with piano notes as indicators.
- **Grin-Compression:** Compresses files by utilizing a lossless compression algorithm, implemented by Huffman Trees.