Lucas Frey

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EDUCATION

Oregon State University – Bachelor of Science – September 2016 – June 2019

Major Computer Science Applied in Machine Learning **Major GPA** 3.67/4.0

Minor Mathematics **Overall GPA** 3.58/4.0

Clubs

- **Artificial Intelligence / Machine Learning Club**
  - Discussed AI/ML related problems, architectures, and other topics
  - Gave talk on neural networks and state of the art architectures

Relevant Coursework

- Analysis of Algorithms & Data Structures
- Operating Systems (Comfortable in Unix)
- Software Engineering (Methodologies & Testing)
- Graph Theory (Graduate level course)
- Statistics for Engineers
- Linear Algebra

Awards

- President's List (2 terms)
- Dean's List (3 terms)
- Honor Roll (4 terms)
- Capital Manor's Foundation Scholarship (2016)

EXPERIENCE

- **Data Science Intern – Lam Research** June 2018 – Present
  - Developed Convolutional Neural Networks (**CNNs**) for image classification and segmentation
  - Replicated results of academic journals on Dense, Inception, and Resnet variant CNNs
  - Achieved 97% pixel 6-fold cross-validation accuracy by training on only 20 images
  - Implemented models in **Python** and **Jupyter Notebooks** using **Keras** and **Tensorfow**
  - Documented development process, logged all analytical data and maintained file integrity using **Git**
  - Presented talk on CNNs to a multi-disciplinary team of engineers
- **Tutor in Computer Science** October 2017 – June 2018
  - Developed own curriculum to teach high school student **C++** and **Java** programming
  - Assisted student in achieving the highest score on the AP Computer Science Exam

ACADEMIC PROJECTS

- **Global Formula Racing (GFR) Driverless Formula Racecar**
  - Developed deep learning computer vision and localization systems for a fully autonomous racecar
  - Trained neural networks for object detection using **Python** and **Pytorch**
  - Documented development process, logged all data and maintained file integrity using **Bitbucket**
- **Traveling Salesman Problem (TSP) Algorithms** built using **C++**
  - Implemented genetic and multithreaded heuristic algorithms to approximate the TSP
  - Outperformed entire class in 7 out of 7 competition test cases
  - Continued development outside of class building GUI in **Qt Creator** to display graph algorithms
- **Aces Up Solitaire Game** built using **Java** and the **Ninja Web Framework**
  - Worked on an agile development team of 4 completing multiple 2-week sprints over the term
  - Utilized **Git** version control and a branch workflow to maintain the integrity of project files
  - Developed both mobile and desktop versions in **HTML**, **CSS**, and **JavaScript**
- **Robotics Club**
  - Led team of 6 on yearlong projects to develop robots to compete in the FIRST Tech Challenge
  - State finalists and two-time regional champions in competitions of 30+ teams each
  - Developed autonomous systems to complete tasks utilizing touch, light, IR and rotation sensors
  - Volunteered at local middle school teaching children how to build and program Lego NXT robots

PERSONAL PROJECTS

- **TSP Graph Reader** built using **Python**, **OpenCV, pybind11,** and **C++**
  - Created augmented reality computer vision algorithm that draws TSP paths on paper.
  - Developed **Python** wrapper in **C++** for accessing **C++** graph algorithms