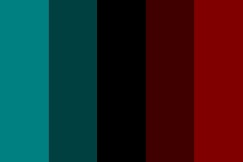
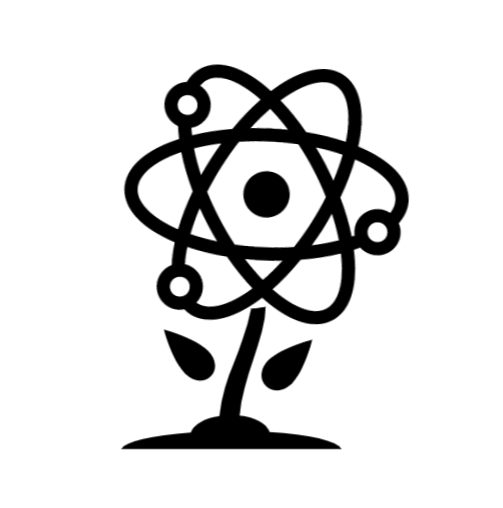
Host: Python Anywhere

Color Palettes:



Black: 4a0606 / Red: 8A0C0C / Cyan:darkcyan / Dark Red #4a0606 / Dark Cyan: 044C4C

Logo:



# Home

### Get to Know Me

* I was born in Portland, OR and currently reside in Seattle, WA.
* **Hobbies:** Hiking, camping, running, painting, board games, reading, and improving my German
* The Foundation Series by Isaac Asmiov, and reading about psychohistory inspired me to pursue mathematics and statistics in higher education.

I am an aspiring data scientist who enjoys finding ways using data to generate actionable insights for the future. I have strong technical skills and an academic background in mathematics, statistics, and computer science. My passion lies in solving problems using historical data, machine learning models and algorithms, and communicating complex ideas to non-technical stakeholders. I am able to jump across verticals to deliver high-performing and visually appealing solutions.

Throughout my academic career, I’ve taken on various leadership roles, including the VP of Relations for UW SEBA, coordinating institute-wide research events for hundreds of people such as the UW Science and Technology Showcase, and organizing weekly meetings in various research projects.

As an IT Business Analyst at JH Kelly, I created machine learning algorithms for predictive analysis, designed and generated company dashboards using Tableau and PowerBI data modeling software to present data in a functional way, led several development projects internally developed software, wrote project proposals, and organized and presented weekly updates for various on-going projects.

As a Data Science Intern for the University of Washington Academic Experience Design & Delivery Team, I apply data mining techniques, conduct statistical analysis, and build machine learning models to be integrated with existing and future products used to provide analytical tools for students, faculty, and staff.

I am currently a full-time graduate student in the UW Master of Science in Data Science program and will be graduating in June 2022. I'm interested in full-time data science or machine learning research projects. Please feel free to get in touch with me.

### Currently Working On

* OneCourt – Dempsey competition!
  + Developing a model to identify key sports details in real time
* AI Fashion – Present to Microsoft’s AI team June 21st
  + Developing and improving on fashion design generation and applications
* Major/Minor recommendation system for students

Getting more experience with machine learning and techniques for processing large amounts of data, such as Spark. I am currently working on building a Content and Collaborative Based Deep Learning Recommendation System.

### Research Interest

I am interested in researching ways that machine learning models can be applied in the field of aerospace, specifically performing analysis of data in video and images.

My interests are varied and constantly adapting, as I learn more about various fields. At a high level I am interested in Machine Learning and Artificial Intelligence. I am most interested in applying ML and AI to various fields such as Sociology, Weather Modeling & Prediction, space,

### Aspirations

I want obtain a research degree in the field on statistics and machine learning, and take those skills and perform research in the aerospace industry.

My future career goals are to work with a team that provides data analytics, visualization, and general consulting to projects that improve the environment and society in a sustainable way.

Ideally this goal would encompass and allow me to expand upon the skills I have learned in mathematics, statistics, and programming.

To continue carving out meaningful information out of mountains of data and eventually to build my own data consulting company where I can always work on new and interesting projects

# Portfolio

Brain Scan Tumor Classification using a Convolutional Neural Network

The Brain Scan Classification is a machine learning project that classifies 2D brain scan images as tumorous or not. Our website allows users to upload their own (.jpg, jpeg, or .png) photos into the model, and get a prediction result. For this project, we are using a 2D Convolutional Neural Network with nine hidden layers to classify 2D MRI brain scan images as tumorous or non-tumorous. Our model was built with Tensorflow, utilizing the Keras API. Our model's input (data set is described in the "Data Description" tab) is composed of standardized 240x240x1 single-channel image arrays. After training, an image passed to the model will produce a prediction of either 1 (tumorous) or 0 (non-tumorous).

Github Link: https://github.com/aaliyahfiala42/DATA515-Brain-Scan-Classification

Startup Analysis

Download paper

This study reviews several questions of interest for entrepreneurs as well as investors about Start-up organizations. We performed our analysis using the Kaggle dataset from Crunchbase’s 2014 snapshot, which includes approximately 50,000 companies. We found that the average amount of money raised, and the average number of funding rounds, both vary by industry. We concluded that the average amount of seed money invested is increasing 13.5% annually. We also found, controversially, that companies that did not have seed rounds are 4 times more likely to have a venture round. Our results should be received with caution, as our dataset included strong survivorship, regional, and market bias.

Our complete analysis and documentation is located in our GitHub Startup-Analysis: <https://github.com/kevSweet/Startup-Analysis>

Visualizing Space Pollution

Embed Code:

<div class='tableauPlaceholder' id='viz1619304298911' style='position: relative'><noscript><a href='#'><img alt=' ' src='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47;Sp&#47;SpacePollution&#47;Dashboard1&#47;1\_rss.png' style='border: none' /></a></noscript><object class='tableauViz' style='display:none;'><param name='host\_url' value='https%3A%2F%2Fpublic.tableau.com%2F' /> <param name='embed\_code\_version' value='3' /> <param name='site\_root' value='' /><param name='name' value='SpacePollution&#47;Dashboard1' /><param name='tabs' value='no' /><param name='toolbar' value='yes' /><param name='static\_image' value='https:&#47;&#47;public.tableau.com&#47;static&#47;images&#47;Sp&#47;SpacePollution&#47;Dashboard1&#47;1.png' /> <param name='animate\_transition' value='yes' /><param name='display\_static\_image' value='yes' /><param name='display\_spinner' value='yes' /><param name='display\_overlay' value='yes' /><param name='display\_count' value='yes' /><param name='language' value='en' /><param name='filter' value='publish=yes' /></object></div> <script type='text/javascript'> var divElement = document.getElementById('viz1619304298911'); var vizElement = divElement.getElementsByTagName('object')[0]; if ( divElement.offsetWidth > 800 ) { vizElement.style.width='1000px';vizElement.style.height='827px';} else if ( divElement.offsetWidth > 500 ) { vizElement.style.width='1000px';vizElement.style.height='827px';} else { vizElement.style.width='100%';vizElement.style.height='727px';} var scriptElement = document.createElement('script'); scriptElement.src = 'https://public.tableau.com/javascripts/api/viz\_v1.js'; vizElement.parentNode.insertBefore(scriptElement, vizElement); </script>

There are an astonishing amount of objects in space. According to the European Space Agency, the number of debris objects in orbit: 34,000 for space objects that have a size greater than 10 cm, 900,000 for objects that have a size between 1 to 10 cm and 128,000,00 for objects that have a size between 1mm to 1cm (“Distribution of Space Debris in Orbit around Earth.”, *ESA*).

In this project, we are interested in learning about man-made objects in Earth orbits and the space pollution associated with them. We care because space junk can impact satellites, causing network outages and costly damage. It will also impact future launches and global satellite internet endeavors. By definition space junk is defined as any piece of debris that is left in space by humans. There are no limits on size, and our space junk includes everything from satellites that no longer work, to paint flecks.

In this project, we use data mainly from *Space-Track.org*, a free access, excel exportable data source that also offers APIs to do data analysis and create corresponding visualizations in order to answer the following questions: Where did all of the space junk come from? How big is the space junk? What percentage of the earth’s orbits are filled with junk? How has the amount of space junk changed over time and what will it look like in the future?

Display Objects in Orbit

Full Report

Link to complete visualization: <https://public.tableau.com/profile/aaliyah.fiala#!/vizhome/Man-MadeObjectsinEarthOrbits/Man-MadeObjectsinEarthOrbits?publish=yes>

An Algorithmic Approach to Generating A Specific Binary Tree

Academic Poster

Website: https://justtree-4c3dc.firebaseapp.com/

**Projects**

**Undergraduate Researcher**  September 2019 - June 2019

Oregon State University College of Science, Corvallis, OR

Professor Dan Rockwell, Will Wodrich, and I worked together to discover a new way to generate Euler's phi function using sturmian words. The Euler phi function is used in several cyber security algorithms, and we found that our new algorithm had a lower computational complexity. Our findings are referenced in the Encyclopedia of Natural Numbers ([Sum of Totient function](https://oeis.org/search?q=A02088&language=english&go=Search)) and were presented at the Celebrating Undergraduate Excellence research fair.

### Publications

[Sum of Totient function](https://oeis.org/search?q=A02088&language=english&go=Search)

# Resume

### Education

1. Master of Science in Data Science
   1. Mar 2022
   2. University of Washington, Seattle, WA
2. Bachelor of Science in Mathematics, Minors in Computer Science and Statistics
   1. Dec 2019
   2. Oregon State University, Corvallis, OR
   3. Graduated Magna Cum Laude
   4. Member of The National Society of Leadership and Success
   5. Member of Torch & Laurel Honors Society

### Experience

1. **IT Business Analyst**
   1. Dec 2019 – June 2022
   2. JH Kelly, Seattle, WA
   3. Lead a team of developers, testers, and analysts for developing a new module for internally developed software, which entailed gathering and writing requirements, workflows, and identifying data needs
   4. Developing the company intranet by gathering all requirements, writing training documentation, and implementing the transfer to a new platform
   5. Designing and generating over 50 company dashboards using Tableau data modeling software to present big data sets in an organized and aesthetically pleasing way
   6. Conducting regular meetings for greater than 100 senior managers and team leaders to demonstrate and perform training of new software
   7. Creating over 100 accounting, management, and other department reports using SAS Report Builder and SAP Crystal Reports
2. AXDD Data Science Intern
3. **Data Analyst Intern** Apr 2019 - Dec 2019  
   JH Kelly, Longview, WA
   1. Researched and wrote technical requirements, generated and set up software for: IT ticketing, tools and equipment requests, and metrics tracking systems
   2. Planned and implemented several data entry, clean-up, and visualization projects company wide
   3. Assisted the IT helpdesk to troubleshoot network, hardware, or application issues via phone, walk-in, or customer generated tickets
   4. Tested internally developed desktop and mobile applications
4. ***College of Science Peer Advisor*** June 2018 - June 2019  
   Oregon State University, Corvallis, OR
   1. ● Performed data entry and analysis on various projects using Excel, communicated feedback in structured reports including detailed recommendations
   2. ● Assisted students with academic advising questions, getting involved with research, and resume/cover letter editing
   3. ● Planned and executed over 10 campus events for hundreds of students, focused on connecting students with campus resources and building a stronger sense of community ***Ford Scholarship Lead Peer Mentor*** Sep. 2018 - present Oregon State University, Corvallis, OR
   4. ● Organized bimonthly campus events for over 80 students aimed on building stronger mentor and mentee relationships
   5. ● Advised over 30 mentors on how to better serve their mentees

### Volunteer

**VP of Relations**

**UW SEBA**

Planned and organized STS: <https://www.uwseba.com/sts>

Planned and organized First Tuesday Meeting: Careers in Data Science

<https://www.uwseba.com/first-tuesday-meetings>

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Description automatically generated

**Student Volunteer** September 2019 - June 2019

Math Circus Project, <http://themathcircusproject.com/>

* Setup and ran Math Circus booths and projects for 20 assemblies/school events for K-12 students
* Engaged with K-12 students about abstract mathematical concepts such as infinity and fractal geometry using relatable vocabulary, metaphors, and physical examples

**Ford Scholarship Lead Peer Mentor**                                                              September 2018 - June 2019

Oregon State University, Corvallis, OR

* Organized bimonthly campus events for over 80 students aimed on building stronger mentor and mentee relationships
* Advised over 30 mentors on how to better serve their mentees

**College of Science Faculty Student Peer Mentor**                                         September 2018 - June 2019

Oregon State University, Corvallis, OR

* Coordinated biweekly meeting between peers and faculty members
* Created task lists for each meeting
* Tutored peers weekly on subjects of Math, Science, and Computer Science coursework

### Awards

* Dempsey
* SPU Competition

● Ford Family Foundation Scholarship 2016 - 2019

● National Society of Leadership and Success Induction May 2018

● Gateway to College Scholarship 2014 - 2016

### ● Oregon State Representative of the National Academy of Future Physicians and Medical Scientists 2016

### Proficiencies

* PySpark
* Proficient in R, Python, C++, C,  SQL, Matlab, LaTeX, RStudio, Git, Github, Jupyter, Tableau, MS Office Suite
* Experience using various machine learning models including regression and classification
* Familiar Platforms
  + Experience with Tableau, Microsoft Studios, Visual Studios, AWS, Linux, MySQL, Outlook, Access, Word, Excel, PowerPoint, Windows 8.1 and 10
  + MS Technologies includes MS Office Suite, Teams, SharePoint, SQL Studio, Azure, GitHub, Atom, and Visual Studios
  + Experience with Tableau, Microsoft Studios, Visual Studios, AWS, Linux, MySQL, Outlook, Access, Word, Excel, PowerPoint, Windows 8.1 and 10
* Programming Languages
  + C, C++, Python, SQL, Javascript, HTML, HTML 5, CSS, R, MASM, Assembly
* Statistical Models
  + Linear Regression, Logistic Regression, K Nearest Neighbors, and Convolutional Neural Networks.
* Spoken Languages
  + Some German, Native English

References:

<https://www.twilio.com/docs/usage/tutorials/how-to-set-up-your-python-and-flask-development-environment>

<https://abhijitroy1998.wixsite.com/abhijitcv>