

# Caroline Clark

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## Data Scientist

### TOOLS AND SKILLS

- Python, TensorFlow, Keras, Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, OpenCV, SQL, HTML
- Neural Networks, Deep Learning, Convolutional Neural Networks, Natural Language Processing, Linear Regression, Logistic Regression, K-Nearest Neighbors, Decision Trees, Random Forests, Support Vector Machines, Naive Bayes, Bagging, Boosting
- Modeling, Data Visualization, Technical Writing, Presenting, Statistics, Web Scraping
- Linux (Ubuntu), Jupyter, Vim, PostgreSQL, Git, GitHub, Google Colab, AWS, Azure, Tableau, Spark, Conda

### MACHINE LEARNING PROJECTS

- Designed custom Python library for convolutional neural networks using only NumPy. Layers currently support Convolutions, ReLU, Max Pooling, Flattening, Dense, and Softmax operations.
- Investigated using county-level demographic data to predict COVID-19 severity. Built several classification and regression models to predict severity, achieving up to 94% accuracy and 81% R2 score, respectively.
- Developed Natural Language Processing model to classify text in artificial intelligence and data science subreddits achieving 93% accuracy on test data, with a recall score of 93% and precision of 93%.
- Conducted original research on how to optimize data acquisition in perception-based machine learning tasks. Pre-published findings on relationship between human classification performance and object resolution.
- Other: Worked on a variety of projects implementing vision-based object detection using machine learning.

### EXPERIENCE

<b>Machine Learning Scientist</b>	<b>HSBIntel</b>	2018 – Present
<ul style="list-style-type: none"><li>• Advised clients on emerging AI trends and recommended product implementation roadmaps.</li><li>• Structured proof-of-concept deep learning approaches based on client needs.</li><li>• Collaborated with teammates to develop internal machine learning tools and toolchain to enable reuse and repeatability of machine learning code and data.</li><li>• Conducted deep learning algorithm pipeline analysis to optimize algorithm performance.</li><li>• Researched impact of data quality on human labeling performance and target ML model performance.</li></ul>		
<b>Analytics + Search Optimization Consultant</b>		2015
<ul style="list-style-type: none"><li>• Utilized statistical methods to identify temporal, geospatial, and keyword patterns in analytics channels.</li><li>• Overhauled and optimized client web platforms to take advantage of identified patterns, increasing customer traffic and conversions 4X while maintaining or reducing costs.</li></ul>		
<b>Analytical Lead</b>	<b>Google</b>	2011 – 2014
<ul style="list-style-type: none"><li>• Led team covering one of Google's major market verticals, focused on integrating new analytics and AI-enabled technology.</li><li>• Leveraged machine learning to identify market growth opportunities based on data pulled from internal and third-party sources including Google search data, Compete, Hitwise, and Google Analytics.</li><li>• Directed development of technical client roadmaps, evaluation metrics, and data-driven opportunities.</li><li>• Built strong relationships at all levels of the organization, from internal engineering and sales to external managers and executives. Obtained buy-in from key stakeholders to execute on roadmaps.</li><li>• Served as a team-wide resource for peers, mentoring new team members on a weekly basis.</li><li>• Helped clients capitalize on mobile business through surfacing consumer insights, highlighting mobile user experience issues, and uncovering web platform improvement opportunities.</li><li>• Collaborated with Google India teams to develop scalable analytic approaches for US counterparts.</li></ul>		

<b>Account Manager</b>	<b>Google</b>	2008 – 2010
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- Managed top-tier clients in major US and global markets to deliver solutions at scale, leveraging services that reach 2+ billion users worldwide.
- Supervised landmark flighted YouTube campaign for top client, providing round-the-clock product support, troubleshooting, and campaign optimization.
- Led weekly in-person meetings with top clients to ensure a strong technical understanding of Google products, helping them achieve sustainable revenue growth while adhering to internal ROI metrics.
- Developed advanced, customized product strategies for clients based on deep knowledge of internal ROI measurement and Google machine learning products.
- Represented Google as a thought leader at industry-specific conferences, delivering key insights on video, social and mobile.
- Team player who covered both account management and analytical needs for the team while understaffed.
- Led office-wide Google Analytics specialist team, creating strategy behind product education, and managing specialist communications and outreach.
- Mentored two new team members on a weekly basis, helping them ramp up on clients, workflow, and product.
- Selected to travel to Google office in Hyderabad, India on an exchange program to improve cross-office workflow, train team members, and solicit feedback to improve programs.

**ADDITIONAL EXPERIENCE**

<b>Director</b>	<b>Ultimate Machining &amp; Engineering</b>	2016 – 2017
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- Directed leadership team in preparing the organization for exit.
- Implemented business development strategy which led to 25% year over year growth in revenue.
- Built, implemented, and maintained successful programs leading to ITAR and ISO 9001:2015 certifications.
- Named to Society of Manufacturing Engineering's 30 Under 30 list.

**EDUCATION**

<b>Northwestern University</b>	2004 – 2008
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- Bachelor of Arts, Psychology & Business Institutions, June 2008. GPA: 3.62
- Merit Scholarship & National Dean's List 2005; AP Scholar 2004

**PROFESSIONAL DEVELOPMENT**

General Assembly	12-Week Data Science Immersive	2020
TensorFlow Developer Specialization	Deeplearning.ai	2020
Deep Learning Specialization	Deeplearning.ai	2018 – 2019
Data Science Math Skills	Duke University	2018
Certified Web Analyst	Digital Analytics Association	2014

**VOLUNTEER**

- Volunteered with RefugeeOne to mentor a refugee family from Syria. 2016
- Volunteered at Snake River Cattle Ranch Wyoming, supporting sustainable livestock practices. 2015
- Volunteered at Killary Adventure Co., Leenane, Ireland, mentoring at-risk youth. 2015
- Volunteered on cultural preservation trip with Aboriginal youth in Maningrida, Australia. 2015
- Volunteered on organic farms in Tasmania, Australia, supporting sustainable farming practices. 2015