

# Grizzly Insights, a tool for matching jobs to IT skills

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## PROBLEM STATEMENT

A common problem for upcoming IT graduates is having the full skill set for the job they want to pursue; to combat this problem, my team and I have worked with our client, Dr. Anca Doloc-Mihu, to relate the qualifications for jobs scraped off of Simply Hired and Indeed to the skills students learned from GGC classes across four IT concentrations (Software Development, Systems and Security, Digital Media and Enterprise Systems) in order for IT students to better choose which classes to take according to their career goals.

## ASSUMPTION

We assume the scraped data will have job skills that correspond to skills that GGC courses teach.

## INITIAL DATASET



job title	skills	company name	location	salary
Digital Media and Graphic Design Specialist	PMP	Pennsylvania House of Representatives, Democra...	Harrisburg, PA	Estimated: \$47,000 - \$65,000 a year
	Legislation	Pennsylvania House of Representatives, Democra...	Harrisburg, PA	Estimated: \$47,000 - \$65,000 a year
	Assembly	Pennsylvania House of Representatives, Democra...	Harrisburg, PA	Estimated: \$47,000 - \$65,000 a year
	Adobe Illustrator	Pennsylvania House of Representatives, Democra...	Harrisburg, PA	Estimated: \$47,000 - \$65,000 a year
	Digital design	Pennsylvania House of Representatives, Democra...	Harrisburg, PA	Estimated: \$47,000 - \$65,000 a year
...				
Digital Media Specialist	Microsoft Powerpoint	Spring Hills, LLC -	Remote	Estimated: \$53,000 - \$71,000 a year
	Adobe Photoshop	Spring Hills, LLC -	Remote	Estimated: \$53,000 - \$71,000 a year
	WordPress	Spring Hills, LLC -	Remote	Estimated: \$53,000 - \$71,000 a year
	Social media management	Spring Hills, LLC -	Remote	Estimated: \$53,000 - \$71,000 a year
	Bachelor's degree	Spring Hills, LLC -	Remote	Estimated: \$53,000 - \$71,000 a year

## WORKS CITED

- Indeed.com
- Simplyhired.com

## DATA PROCESSING

A total of 500 job postings were scraped for each of the four concentrations: software development, digital media, enterprise systems, and systems & security, resulting in a total of 2,000 job postings. .

The following steps were taken during the data cleaning process:

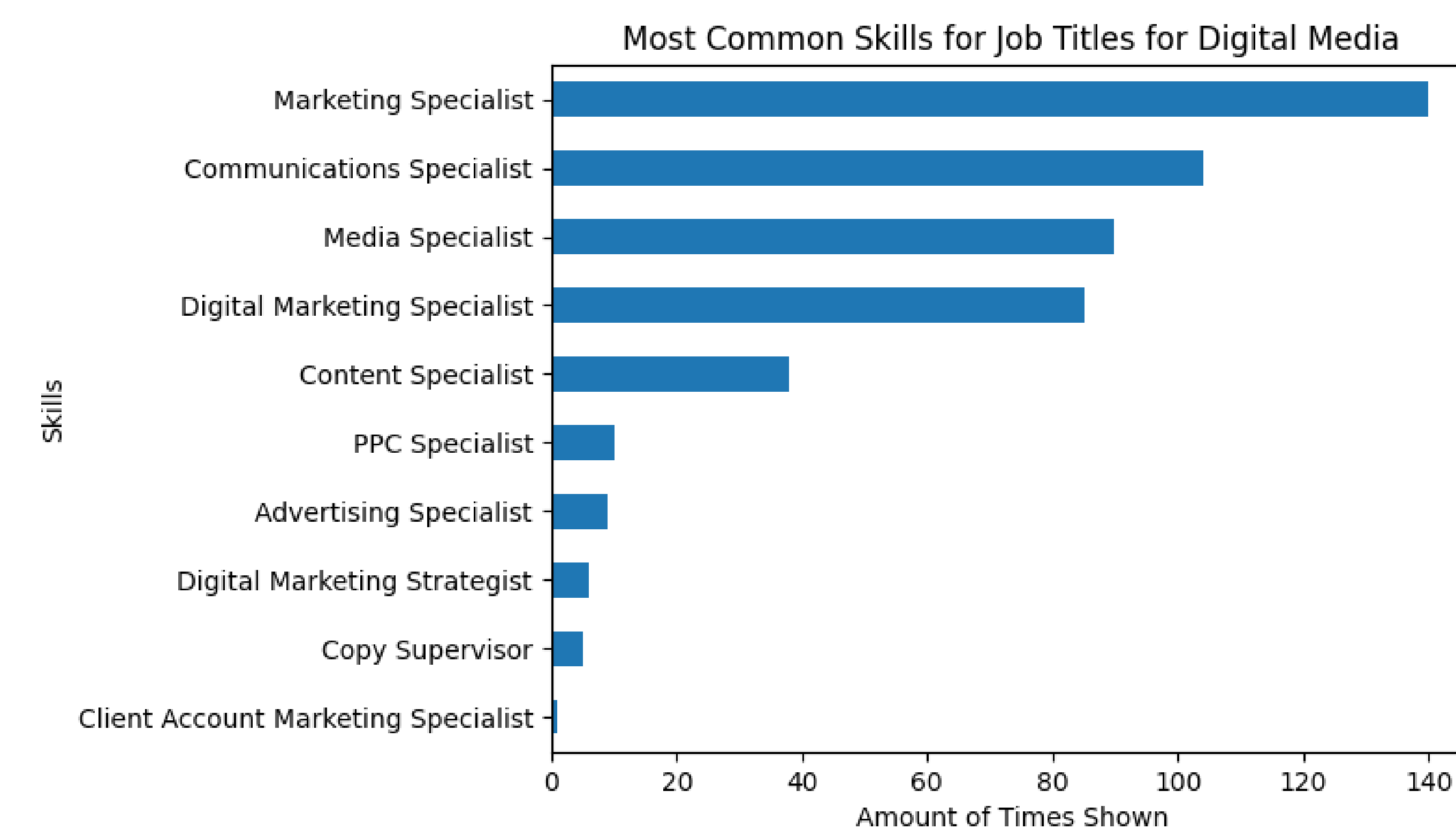
Combining Datasets    Generalizing Job Titles

Separating Skills    Collapsing Skills into Lists

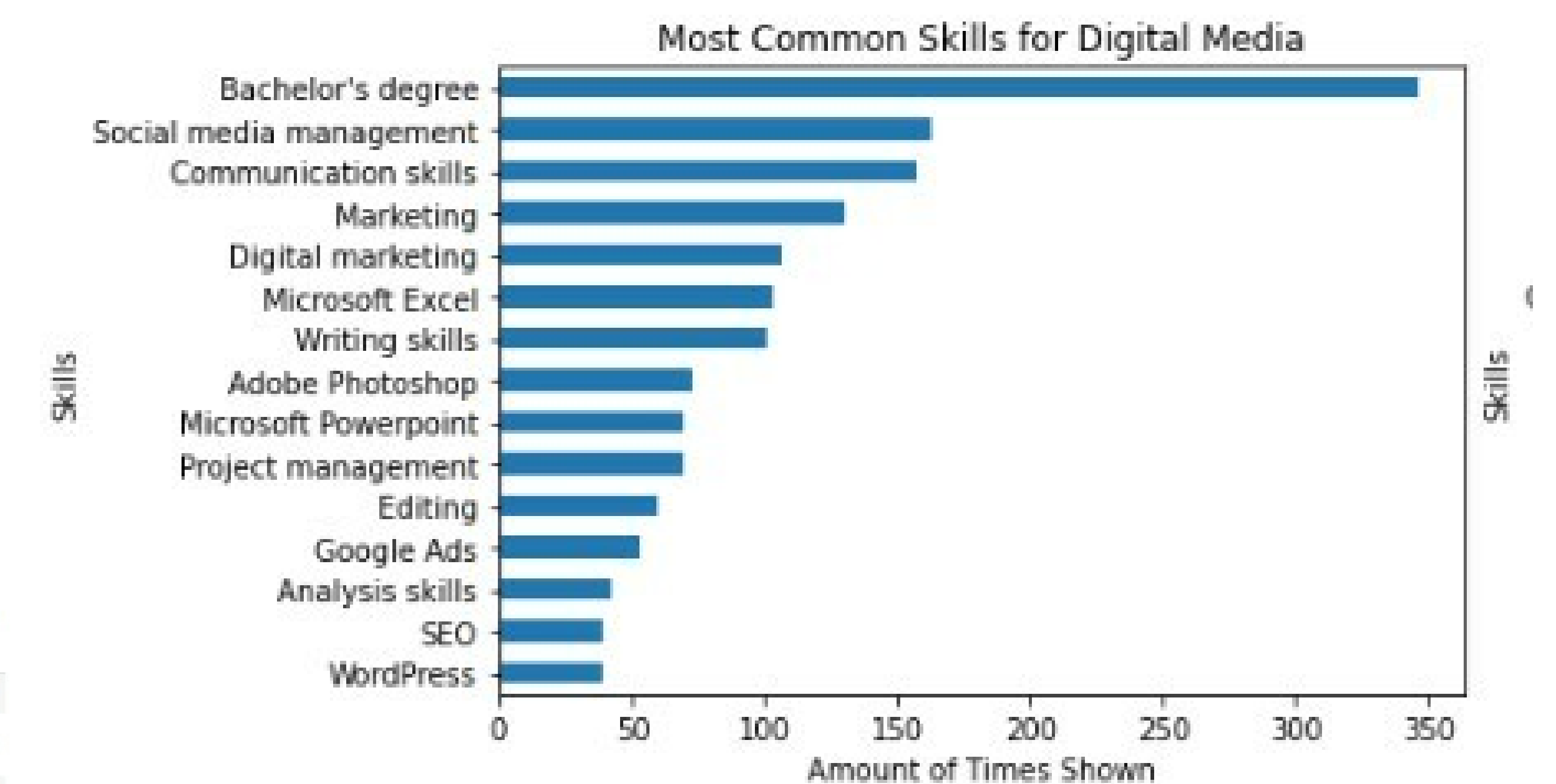
job title	skills	soft skills	technical skills	business skills
Accountant	[None]	None	None	None
Operations Analyst	[Logistics, Microsoft Excel, ERP systems, SAP ...]	None	[Microsoft Excel, ERP systems, SAP Warehouse M...]	None
Assembly Coordinator	[None]	None	None	None
Business Analyst	[Microsoft Access, Analysis skills, SAP, Compu...]	[Communication skills]	[Microsoft Access, Analysis skills, SAP, ERP s...]	[Azure, Project management, Business analysis]
Business Analyst	[SAP, Bachelor's degree]	None	[SAP]	None
...	...	...	...	...
Decision Support Specialist - Finance Manager	[Analysis skills, Cost accounting, Financial m...]	[Customer service]	[Analysis skills, Cost accounting, Financial m...]	None
Implementation Consultant	[Project planning, Customer relationship manag...]	[Communication skills]	None	[Project planning, Scrum]
Business Process Analyst	[Warehouse management, Customer service, Micro...]	[Customer service]	[Microsoft Excel, ERP systems, SAP ERP]	[Warehouse management]
Business Analyst	[Writing skills, Unit testing, Analysis skills...]	[Writing skills]	[Unit testing, Analysis skills, Microsoft Exce...]	None
Business Analyst	[Writing skills, Accounting, JD Edwards, Const...]	[Writing skills]	[JD Edwards]	[Accounting, Business Intelligence]

## RESULTS

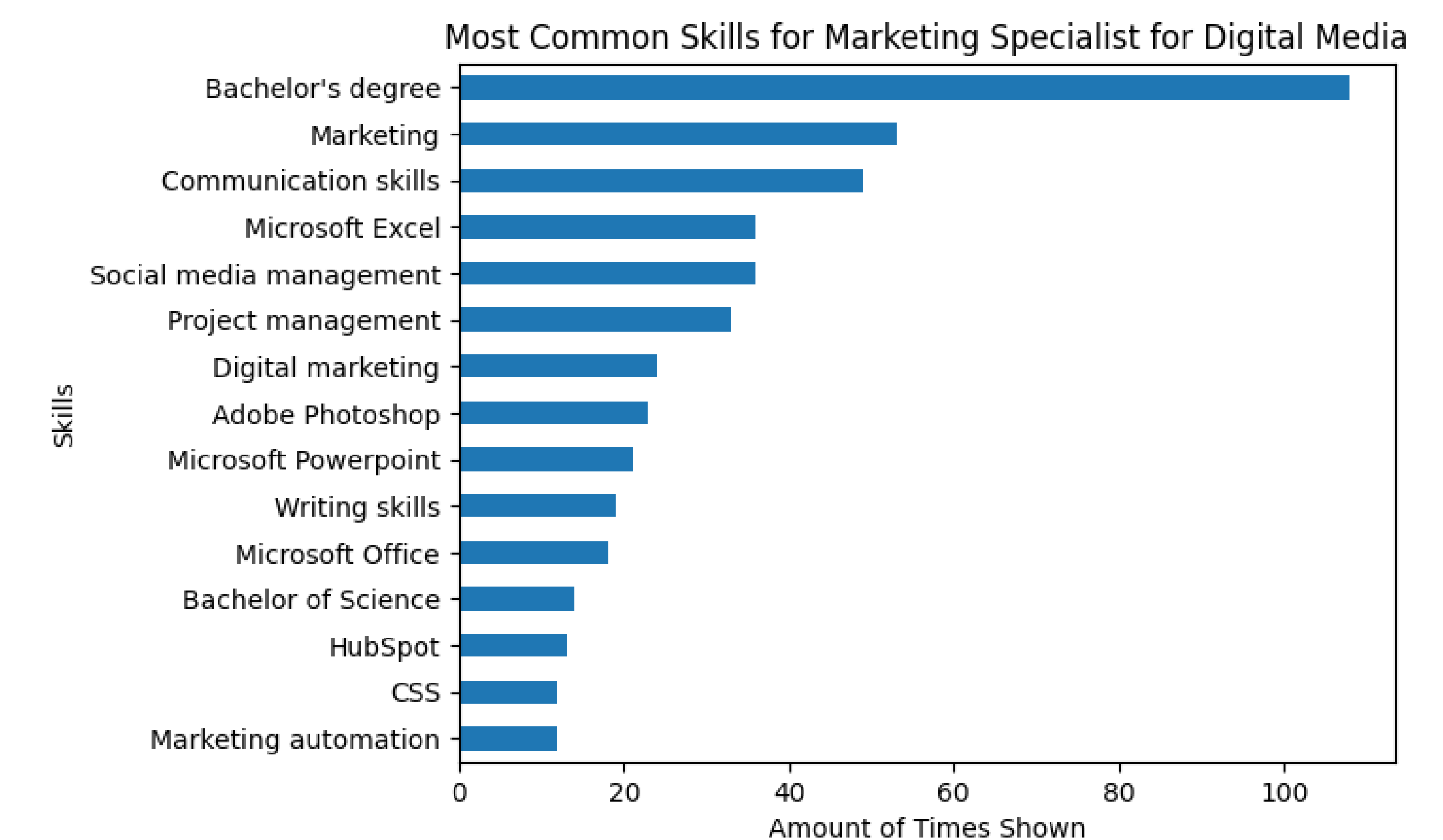
The most common job titles for Digital Media



The most common skills for Digital Media



Top skills for a Marketing Specialist



## FUTURE WORK

**Building a Machine Learning Model:** We are working on building a machine learning algorithm that predicts a job title based on the technical skills provided by a student.

**Developing a Website Visualization:** We are developing a website visualization that allows students to choose the concentration and job they want and see what skills are needed and what classes at Georgia Gwinnett College they should take.