

Appendix for CS 505 Final Project
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Code can be found on Github at <https://github.com/shreya726/industry-clusters>.

Principal Components for all Industries (5 for each regardless of actual number)

Accounting/Finance

Component	Cluster Text
	financial reporting analysis management monthly business finance budget
0	internal annual
	business analyst analysis financial planning strategic project amp development
1	management
2	summary accountant financial tax cpa controller job reporting bachelor ledger
3	summary accounts job analysis analyst invoices data cost payable billing
4	summary payroll job tax financial state federal budget procedures program

Administrative

Component	Cluster Text
	executive support management ability administrative meetings including project
0	travel reports
1	patient patients medical employee human resources insurance care hr program
2	office patient patients medical skills receptionist insurance ability calls high accounting payroll office duties administrative school accounts human filing
3	employee
	executive summary assistant patient meetings patients travel medical board
4	administrative

Analyst

Component	Cluster Text
	business data requirements project systems technical development functional
0	design user
	business project requirements functional technical test systems security process
1	testing
2	data marketing security title description test digital job overview testing
3	marketing sales team work clients product research market customer company security support data required duties customer management information service
4	program

Architecture/Drafting

Component	Cluster Text
0	construction project drawings autocad job drafting interior cad revit architectural
1	job overview amd litigation law title summary security paralegal legal

- security network management construction systems support cisco information
- 2 infrastructure project
- 3 security user network ux sales marketing product media customer design
- 4 business sales legal marketing data customer media law assistant company

Art/Design/Entertainment

- | | |
|-----------|---|
| Component | Cluster Text |
| | construction school program license children service students training hiring |
| 0 | project |
| 1 | marketing media social art school content graphic events event internship
marketing management business project development media support content social |
| 2 | including |
| 3 | user ux students ui mobile web product content data learning
students project media social web development content program construction |
| 4 | teaching |

Banking/Loan/Insurance

- | | |
|-----------|---|
| Component | Cluster Text |
| 0 | sales insurance customer business loan skills work service new financial |
| 1 | farm sales state agent insurance agents customer products employees casualty |
| 2 | sales insurance new agency business clients client networking health possess |
| 3 | farm state agent employees patient patients claims medical billing hiring
financial management business ability client skills development overview support |
| 4 | data |

Beauty/Wellness

- | | |
|-----------|---|
| Component | Cluster Text |
| 0 | care patient health brookdale patients medical nursing nurse healthcare clinical
massage spa therapy license salon therapist services licensed esthetician |
| 1 | cosmetology |
| 2 | media hiring social avenue york summary content looking hair digital
salon services beauty seva customers overview cosmetology franchise tinting |
| 3 | esthetics |
| 4 | sales store brookdale beauty care lush home retail makeup patients |

Business Development/Consulting

- | | |
|-----------|---|
| Component | Cluster Text |
| | accounting human payroll billing office resources resident financial employee |
| 0 | functions |
| | sales ability human employee business development hr skills resources |
| 1 | management |
| 2 | sales billing accounts office payroll care resident manager receivable facility
marketing media content human social campaigns resources hr employee |
| 3 | communications |
| 4 | billing marketing accounts care business accounting receivable payroll financial |

office

Education

Component	Cluster Text
0	children child teacher early childhood school classroom students teachers teaching
1	00 looking type equivalentrequired location timesalary license job school tutoring students student teaching academic instructional college learning school instruction
2	tutoring
3	sales customer childhood early business marketing learning teacher project children office duties essential ability school perform high functions customer
4	administrative

Facilities/General Labor

Component	Cluster Text
0	license job summary description cleaning driver reliable type certification pass
1	license work able driver equipment construction high cleaning school clean license services health certification mental driver social washrack clinical
2	experience license summary driver construction description certification job valid experience
3	equivalentrequired washrack customer sales production potatoes data company merchandise business
4	fast

Hospitality

Component	Cluster Text
0	hotel guest guests room standards desk able service rooms courteous
1	sales hotel management marketing guest event business ability ensure maintain
2	sales catering customer restaurant service hotel store customers retail food
3	office sales patients patient customer medical receptionist skills desk administrative
4	hotel sales marketing overview event desk guest media social position

Human Resources

Component	Cluster Text
	recruiting candidates recruiter sourcing sales hiring talent candidate staffing
0	looking
1	talent recruiting hr candidates business hiring sourcing team managers recruitment development training program services business management staff children
2	leadership programs hr summary generalist business looking overview talent partner people
3	development
4	payroll accounting team data business ability client office clients customer

Installation/Maintenance/Repair

Component	Cluster Text
0	installation license looking experienced pay hiring installers 00 drivers commercial

- 1 maintenance restaurant apartment property hvac people maintaining community person grounds
- 2 restaurant equipment people maintaining outside person mcdonald filtering fryers compactor
- 3 equipment electrical mechanical repair license maintenance mechanic 00 tools school
- 4 summary facility maintenance production manager hotel facilities plant manufacturing building

Legal

- | Component | Cluster Text |
|-----------|--|
| 0 | litigation firm law paralegal secretary legal assistant attorney court injury |
| 1 | summary title position overview tx license houston omniplex bar care estate business real compliance contract law corporate litigation contracts |
| 2 | agreements |
| 3 | estate real sales title assistant administrative office summary customer executive |
| 4 | sales law marketing business services team immigration firm care customer |

Manufacturing/Construction/Production

- | Component | Cluster Text |
|-----------|---|
| 0 | project construction management projects manager design engineering superintendent manage site construction license driver commercial looking 00 certification project residential type |
| 1 | marketing media creative design content video social sales digital development |
| 2 | project shift production manufacturing 00 summary machine food quality scope summary maintenance systems equipment electrical scope engineering repair |
| 3 | technician overview |

Marketing/Advertising/PR

- | Component | Cluster Text |
|-----------|---|
| 0 | media social content digital communications facebook writing internship creative campaigns |
| 1 | digital client product sales business content account campaigns project develop project communications event projects client management internal production |
| 2 | program manager |
| 3 | product digital email data analytics ll campaigns seo content company |
| 4 | client account clients agency digital advertising project media looking day |

Medical/Healthcare

- | Component | Cluster Text |
|-----------|--|
| 0 | business sales management client development services clients project company healthcare |
| 1 | looking license 00 time brookdale resume san dental paid great |
| 2 | care brookdale health home clinical residents nursing assistant medication |

- community
- 3 billing coding claims summary collections icd compliance insurance medicare cpt
- 4 brookdale billing residents insurance associates living life older dental benefits

Product/Project Management

- | Component | Cluster Text |
|-----------|--|
| 0 | description company sales license construction 000 00 school customer job product customer sales business products service marketing development |
| 1 | customers ability
construction customer sales customers service skills product design work |
| 2 | engineering |
| 3 | program cost data programs controls budget reports monthly administrative school |
| 4 | description skills ability required perform general employee essential work duties |

Real Estate

- | Component | Cluster Text |
|-----------|--|
| 0 | property management accounting manager project tenant construction maintenance lease leasing
loan project accounting mortgage financial development construction investment |
| 1 | finance loans
license called school job type assistant certification equivalentrequired yearrequired |
| 2 | 00
project marketing development construction team management projects design |
| 3 | media manage |
| 4 | administrative marketing office assistant skills media team social ability work |

Restaurant/Food Services

- | Component | Cluster Text |
|-----------|--|
| 0 | hiring street boston cambridge want 00 looking labatt quincy monday |
| 1 | want maybe crew learn meet team don working mcdonald restaurant management sales operations development training years street marketing business |
| 2 | boston |
| 3 | street hiring boston cambridge quincy restaurant avenue able guests drugs |
| 4 | restaurant license 00 experience high school timesalary customer type yearrequired |

Retail

- | Component | Cluster Text |
|-----------|--|
| 0 | hiring street avenue san antonio york road west chicago north |
| 1 | york new avenue street broadway chicago west north east hiring |
| 2 | chicago north houston vegas las south boulevard street columbus road |
| 3 | avenue chicago north san west antonio lincoln clark pedro clybourn |
| 4 | street east chicago san indianapolis antonio west 82nd north clark |

Security/Law Enforcement

- | Component | Cluster Text |
|-----------|--------------|
|-----------|--------------|

- 0 guard license school card 00 officers valid equivalentrequired high time
- 1 network information guard systems application data risk server web design
- 2 safety shift duties ability perform required employee functions procedures manager
shift managers food people manager mcdonald crew summary cleanliness
- 3 interested
summary position december november description accepted 2016 14 program
- 4 reports

Science/Research

Component Cluster Text

- 0 clinical study regulatory site trial monitoring data laboratory medical trials
- 1 data project management business clinical marketing client product research clients
summary clinical study management site project media program position
- 2 monitoring
summary data product business project analysis design development analytics
- 3 teams
customer technical project equipment systems laboratory management support
- 4 service quality

Skilled Trade

Component Cluster Text

- handyman craftsman remodeler home contractor residential repair remodeling
- 0 connection carpenter
sales handyman customer business remodeler marketing contractor craftsman home
- 1 enterprise
sales customer craftsman maintenance work ability equipment customers repair
- 2 skills
rio grande valley craftsman professional able work customer generate pediatrician
- 4 lush retail rio grande store valley handyman shop remodeler recruiting

Senior Management

Component Cluster Text

- accounting care financial audit department compliance residents living resident
- 0 staff
sales care living community residents brookdale resident assisted home health
- 2 media marketing care living community social brand digital content agency
- 3 accounting media marketing financial audit summary cash tax investment content
- 4 marketing accounting financial media care director client community staff account

Software Development/IT

Component Cluster Text

- 0 test development data web testing code product team automation design
- 1 hiring avenue street francisco san york road market title network
security hiring project business information analyst management avenue analysis
- 2 street

- 3 data business project customer team people clients sales work technology
- 4 hiring project test avenue business training customer sales qa york

Sports/Fitness

Component Cluster Text

- 0 sales fitness marketing work skills business sports new management media
- 1 fitness personal training trainer members club exercise certification trainers school
- 2 sales fitness personal training members marketing business customer studio service
- 3 summary sales job position retail customer studio marketing manager entry
- 4 summary personal fitbit data fitness trainer training design trainers status

Travel/Transportation

Component Cluster Text

- 0 job school license drivers driver description cdl 00 safety summary
- 1 sales license driver territory 00 drivers school store equivalentrequired selling
- 2 marketing media event description york design content digital ll advertising
- 3 marketing event events office sales staff administrative executive media duties
project sales construction summary description job position projects design
- 4 executive

Writing/Editing/Publishing

Component Cluster Text

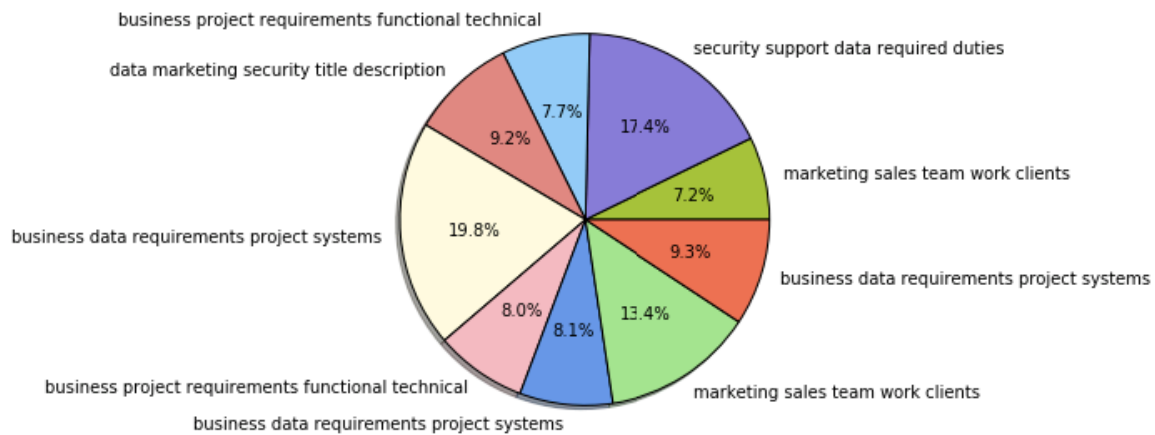
- 0 program technical support staff service legal required proposal project documents
- 1 video news internship interns students summary production looking stories editing
- 2 product content sales customer copy data technical team ll company
- 3 content news editor editorial program video grant stories web digital
students program fundraising development sales community grant marketing donor
- 4 teaching

Informative Results via Visualization

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Analysis for Analyst
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Principal Components

component_0: business data requirements project systems
component_1: business project requirements functional technical
component_2: data marketing security title description
component_3: marketing sales team work clients
component_4: security support data required duties
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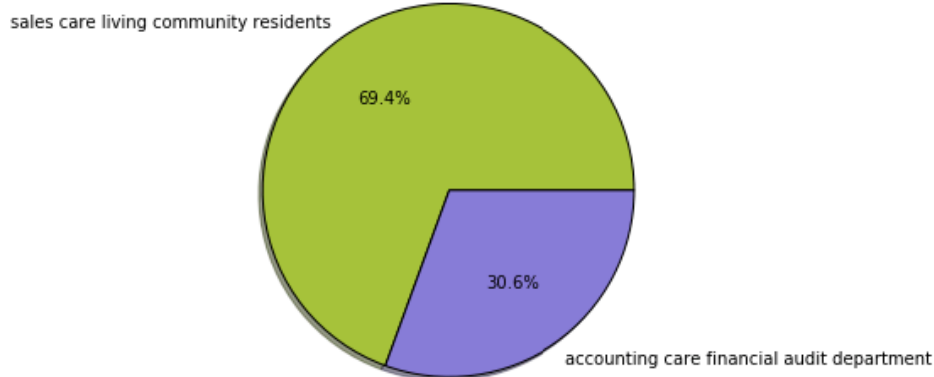


===== Analysis for Senior Management =====

Principal Components

component_0: accounting care financial audit department
 component_1: sales care living community residents
 component_2: media marketing care living community
 component_3: accounting media marketing financial audit
 component_4: marketing accounting financial media care
 component_5: client project accounting care living
 component_6: project program mit sales manager

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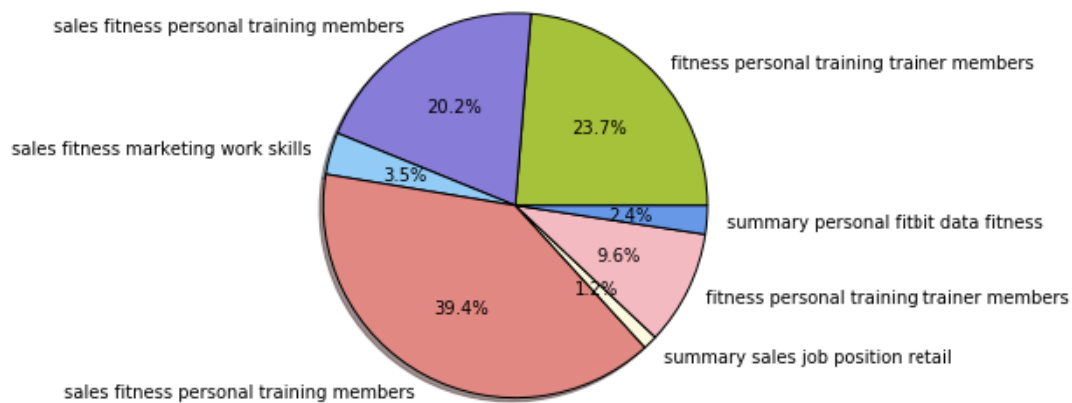


===== Analysis for Sports/Fitness =====

Principal Components

component_0: sales fitness marketing work skills
 component_1: fitness personal training trainer members
 component_2: sales fitness personal training members
 component_3: summary sales job position retail
 component_4: summary personal fitbit data fitness
 component_5: summary members fitbit member staff
 component_6: media summary marketing social personal

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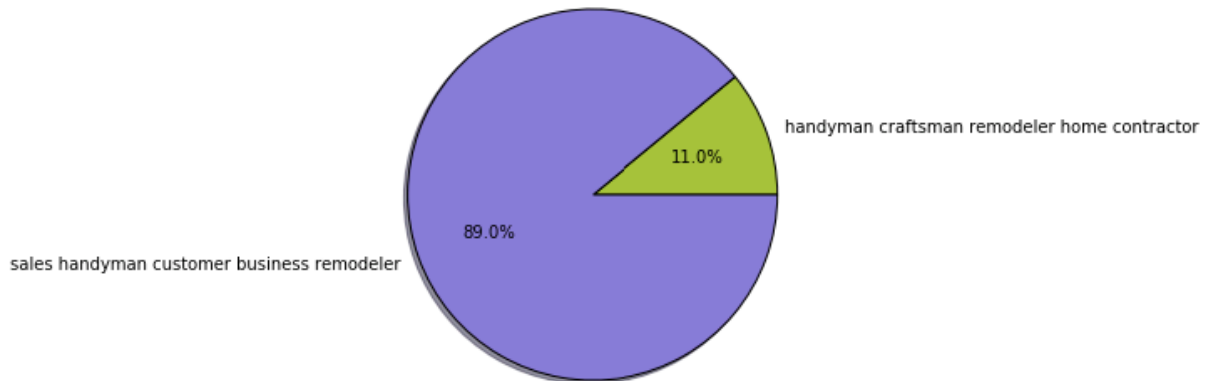
Analysis for Skilled Trade

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Principal Components

component_0: handyman craftsman remodeler home contractor
component_1: sales handyman customer business remodeler
component_2: sales customer craftsman maintenance work
component_3: rio grande valley craftsman professional
component_4: lush retail rio grande store
component_5: lush store retail shop recruiting
component_6: contractor remodeler design handyman craftsman

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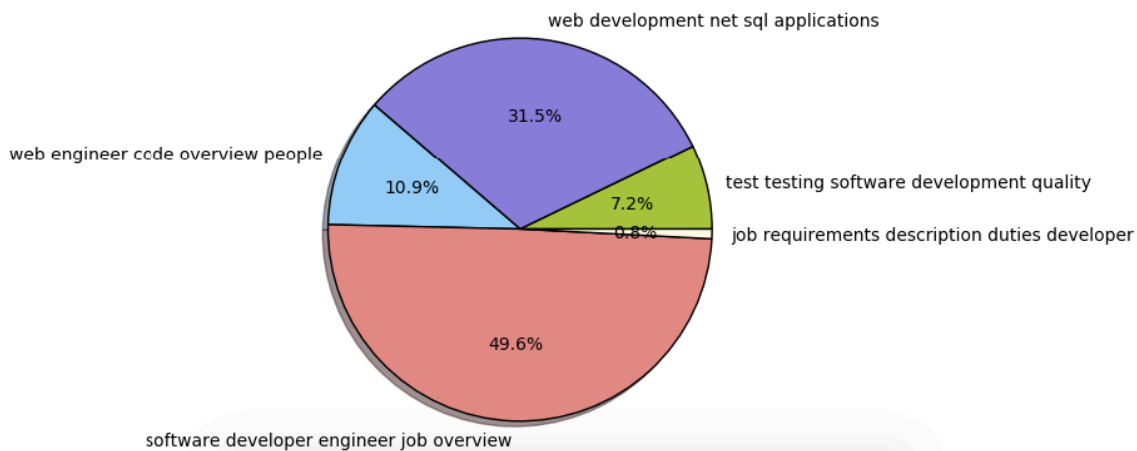
Analysis for Software Development/IT

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Principal Components

component_0: web engineer code overview people
component_1: test testing software development quality
component_2: software developer engineer job overview
component_3: web development net sql applications
component_4: software engineer systems hardware network
component_5: web support developer customer test
component_6: test security web windows automation
component_7: job requirements description duties developer
component_8: data job java sql years
component_9: developer sqrrl software careers hunting

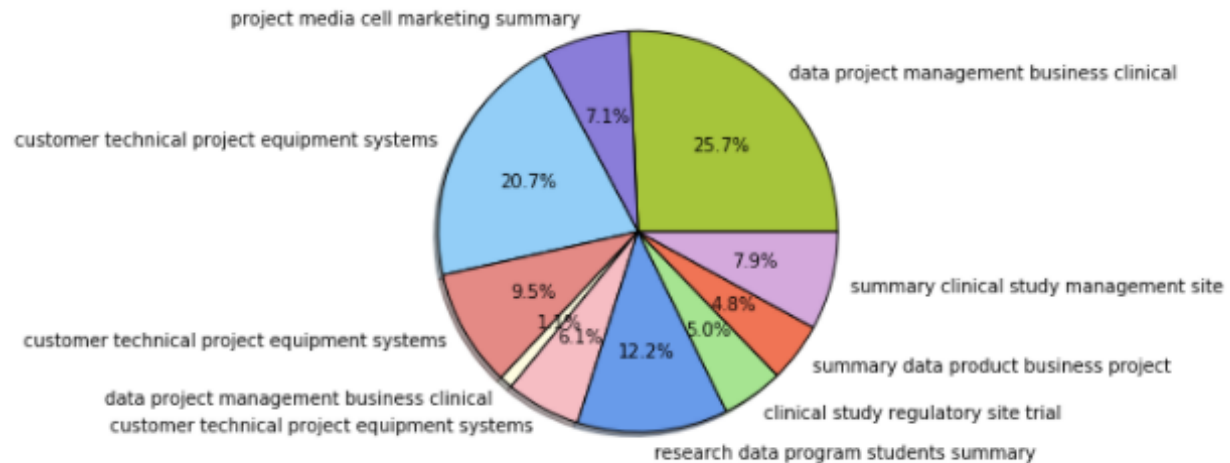
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===== Analysis for Science/Research =====

Principal Components

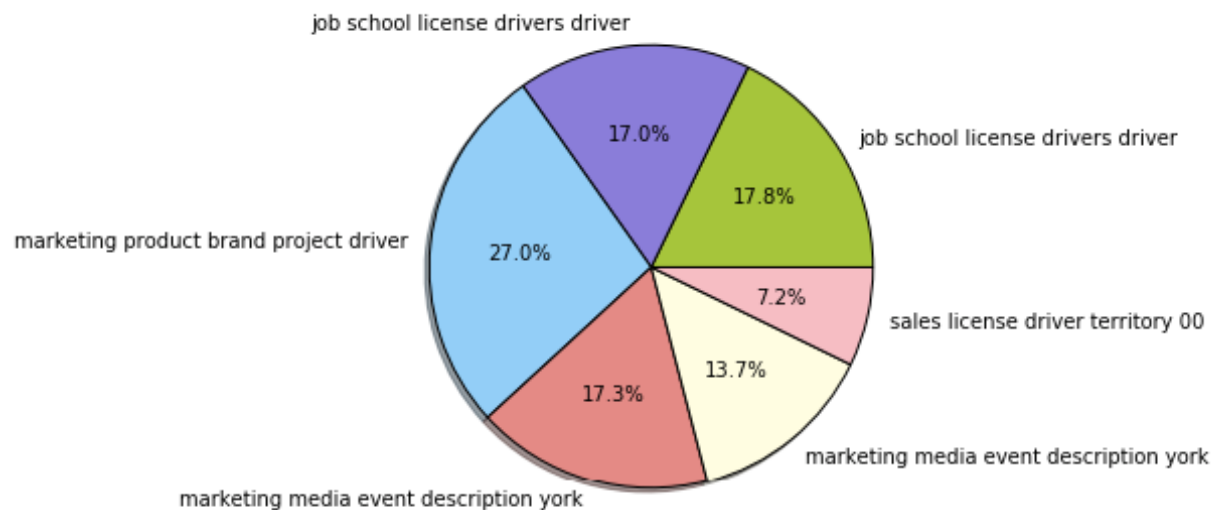
component_0: clinical study regulatory site trial
 component_1: data project management business clinical
 component_2: summary clinical study management site
 component_3: summary data product business project
 component_4: customer technical project equipment systems
 component_5: project media cell marketing summary
 component_6: research data program students summary
 component_7: project students development teaching program
 component_8: research sales clients client market
 component_9: sales summary laboratory students customer
 component_10: cell sales school tutoring project
 component_11: data sales cell company overview
 component_12: product research sales grant development
 component_13: sales health marketing laboratory care
 component_14: overview company laboratory students data



===== Analysis for Travel/Transportation =====

Principal Components

component_0: job school license drivers driver
 component_1: sales license driver territory 00
 component_2: marketing media event description york
 component_3: marketing event events office sales
 component_4: project sales construction summary description
 component_5: project license work construction time
 component_6: marketing product brand project driver



Uninformative Results via Visualization

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Analysis for Accounting/Finance

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Principal Components

component_0: financial reporting analysis management monthly
component_1: business analyst analysis financial planning
component_2: summary accountant financial tax cpa
component_3: summary accounts job analysis analyst
component_4: summary payroll job tax financial
component_5: payroll financial company controller benefits
component_6: summary payroll tax team revenue
component_7: tax analyst data payroll analysis
component_8: staff accountant revenue audit billing
component_9: tax sales customer billing revenue
component_10: revenue accountant estate real payroll
component_11: client financial clients summary accounts
component_12: project client billing payable management
component_13: accountant revenue billing summary cost
component_14: project cost tax payable inventory

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Analysis for Business Development/Consulting

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Principal Components

component_0: accounting human payroll billing office

component_1: sales ability human employee business

component_2: sales billing accounts office payroll

component_3: marketing media content human social

component_4: billing marketing accounts care business

component_5: 000 sales 00 summary job

component_6: project hr business human development

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Analysis for Legal

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Principal Components

component_0: litigation firm law paralegal secretary

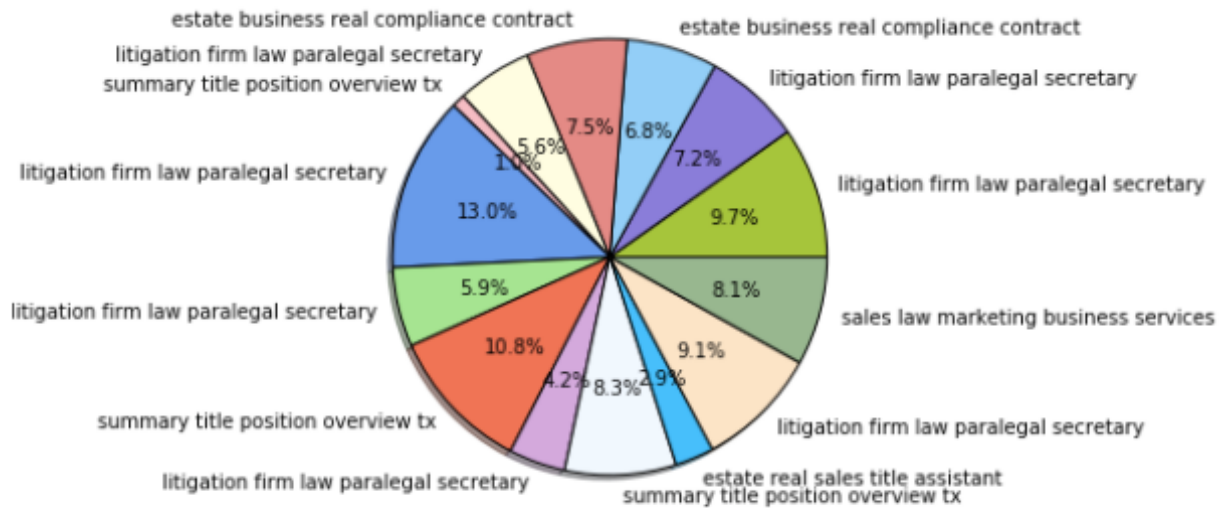
component_1: summary title position overview tx

component_2: estate business real compliance contract

component_3: estate real sales title assistant

component_4: sales law marketing business services

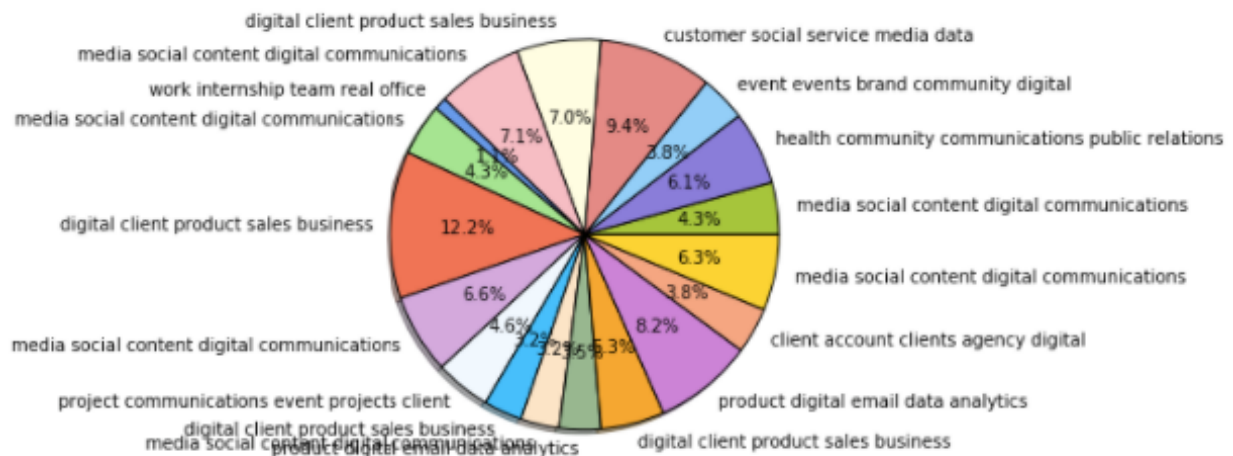
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Analysis for Marketing/Advertising/PR

Principal Components

- component_0: media social content digital communications
- component_1: digital client product sales business
- component_2: project communications event projects client
- component_3: product digital email data analytics
- component_4: client account clients agency digital
- component_5: digital sales email campaigns seo
- component_6: work internship team real office
- component_7: customer social service media data
- component_8: health community communications public relations
- component_9: event events brand community digital

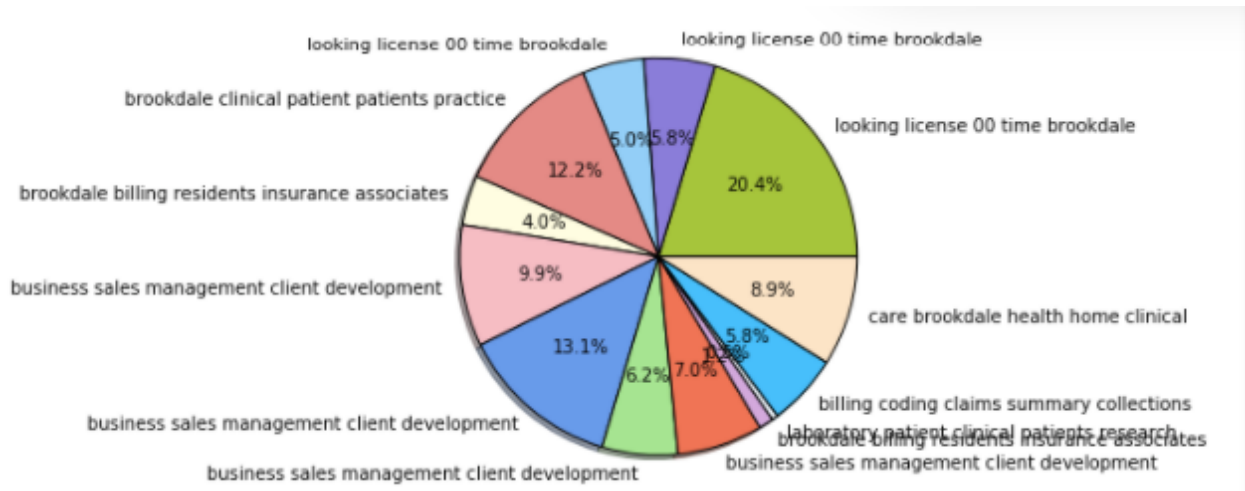


Analysis for Medical/Healthcare

Principal Components

- component_0: business sales management client development
- component_1: looking license 00 time brookdale
- component_2: care brookdale health home clinical
- component_3: billing coding claims summary collections
- component_4: brookdale billing residents insurance associates
- component_5: care health billing home healthcare

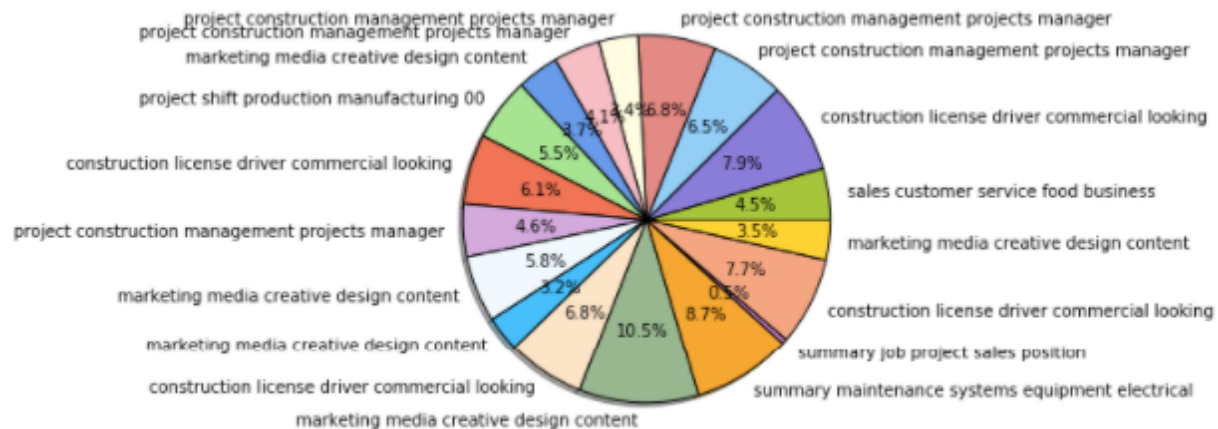
component_6: summary patient patients position equipment
 component_7: brookdale clinical patient patients practice
 component_8: laboratory patient clinical patients research
 component_9: office clinical data research study
 =====



Analysis for Manufacturing/Production/Construction

Principal Components

component_0: project construction management projects manager
 component_1: construction license driver commercial looking
 component_2: marketing media creative design content
 component_3: project shift production manufacturing 00
 component_4: summary maintenance systems equipment electrical
 component_5: sales customer service food business
 component_6: summary job project sales position
 component_7: project employment gilbane opportunity engineering
 component_8: construction food safety superintendent commercial
 component_9: summary maintenance 00 license production
 =====



Analysis for Beauty/Wellness

Principal Components

component_0: care patient health brookdale patients
 component_1: message spa therapy license salon
 component_2: media hiring social avenue york
 component_3: salon services beauty seva customers
 component_4: sales store brookdale beauty care
 component_5: message media social marketing content
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component_6: oncology patients texas patient cancer
 component_7: lush hiring brookdale residents store
 component_8: sales summary hiring customers vehicle
 component_9: salon hair stylist client spa
 component_10: school summary ability education job
 component_11: studio hiring summary flywheel patients
 component_12: studio flywheel lash eyelash guest
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