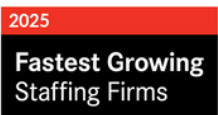




**BURTCH
WORKS**

DATA ENGINEERING PROFESSIONALS SALARY REPORT

2025 EDITION



INTRODUCTION

ABOUT BURTCH WORKS

Burtch Works is a U.S.-based talent solutions partner at the intersection of data, analytics, and artificial intelligence, with 16+ years of experience helping organizations build specialized teams. We deliver executive search, contract staffing, and managed services across Fortune 500 enterprises and high-growth startups.

We've been named to the Inc. 5000 list of America's Fastest-Growing Companies for three consecutive years and recognized by Staffing Industry Analysts as one of the fastest-growing staffing firms. Our insights are frequently cited by The Wall Street Journal and other major outlets.

What we build

- **AI Lab Build-Outs:** Stand up a AI Lab in weeks; from first hires to scaled pods with governance and success metrics.
- **RLHF & Alignment:** Human-in-the-loop trainers/evaluators to align models to brand voice, governance, and compliance.
- **Gen AI Implementation:** Integrate LLMs into workflows (RAG, agents, copilots) and fine-tune for domain accuracy.
- **Data Science & Analytics:** Predictive insights that drive revenue, efficiency, and risk reduction.
- **MLOps & Platform Engineering:** CI/CD, monitoring, and scalable multi-cloud infrastructure.

How we deliver

- **Contract / Employer-of-Record (EOR):** Flexible capacity with nationwide compliance and payroll.
- **Contract-to-Hire (C2H):** Start fast on contract with an option to convert full-time.
- **Executive Search:** Contingent or retained for ICs and leaders.
- **Fractional Talent:** Interim/CxO-caliber leadership for assessments, execution, or oversight.
- **Managed Services:** Outcome-based delivery under a fixed SOW with milestones.

Where we specialize

Data Science, AI, Analytics, Machine Learning, **Data Engineering**, Cloud Engineering, Cybersecurity, Product/Technology, Market Research, and Marketing Analytics. Our domain expertise, national reach, and curated talent network allow us to meet organizations at any stage of AI transformation—from first hire to scaled outcomes.

Why Burtch Works

- **Specialization:** Deep domain and industry expertise.
- **High Tech & High Touch:** Technical vetting + expert recruiting.
- **Proprietary Talent Community:** Access to 150k+ pre-vetted practitioners.
- **Research-Driven:** Annual Burtch Works Reports inform compensation and workforce planning.
- **EOR Benefits:** Best-in-class benefits and 401(k) match for consultants.

TABLE OF CONTENTS

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Section 1: Industry Trends

Desired Skill Sets	1
Data Engineering Hiring Trends	2
The Role Data Engineering Plays in AI	2
Specialization Demands	3
Candidate Motivations	4

Section 2: Compensation Changes

Job Level Segmentation	6
Compensation Changes Over Time: 2024 and 2025 Baseline Data	7

Section 3: Demographic Profile

Education	10
Residency Status	13
Region	14
Industry	16
Gender	18
Years of Experience	20

Section 4: Appendices

Appendix A: Report Objective & The Sample	22
Appendix B: Glossary of Terms	23

Data Engineering Roles

DESIRED SKILL SETS: THE BASICS

In 2025, fundamentals of Python, SQL, Java, and Scala remain the foundation.

Cloud fluency in AWS, Azure, and GCP is now assumed, while distributed-framework expertise in Apache Spark, Kafka, and Databricks has become universal.

Familiarity with Pandas, NumPy, and dbt is table stakes, and employers increasingly expect Docker, Kubernetes, and workflow orchestration tools such as Airflow.

The market also emphasizes data governance, lineage, and observability, as organizations seek to ensure trust and compliance across expanding AI-powered data ecosystems.

DESIRED SKILL SETS: THE NEXT LEVEL

Organizations now prioritize engineers who can productionize AI pipelines — bridging data engineering with MLOps and DataOps, a core theme of this year's report.

Experience with TensorFlow, PyTorch, and LLM integration is valued not for model training itself, but for enabling *model-ready data systems*.

Engineers capable of deploying CI/CD pipelines for data, integrating AI-assisted data-quality monitoring, and managing feature stores and metadata catalogs are commanding premium compensation and accelerated advancement.



Data Engineering Hiring Trends & AI

DEMAND DRIVERS

Despite macroeconomic caution, demand for data engineers remains resilient and diversified, driven by:

- Hybrid and multi-cloud adoption requiring scalable ingestion and governance.
- Expansion of LLM and Gen AI infrastructure, including data collection, labeling, and retrieval pipelines.
- Compliance and security mandates (SOC 2 for AI, NIST RMF 2.0, GDPR/CCPA extensions) driving traceable, auditable pipelines.
- Industry-specific transformations in healthcare, financial services, and retail/e-commerce fueling real-time analytics, personalization, and automation.

The result: organizations now prize platform engineers who can span infrastructure, governance, and applied AI.

THE ROLE DATA ENGINEERING PLAYS IN AI

Data engineers form the operational backbone of enterprise AI.

They design and maintain ingestion, transformation, and delivery layers that feed both LLMs and traditional ML models.

In 2025, this includes retrieval pipelines for RAG systems, maintaining vector databases, and supporting low-latency real-time inference.

They also implement AI-driven automation – including anomaly detection, drift monitoring, and adaptive data routing – ensuring safe and scalable AI operations.

In short, AI performance quality depends on the sophistication of data engineering.



The Latest Specialization Demands

SPECIALIZATION & IMPACT ON PAY

Distinct specializations continue to drive compensation variance:

- **Real-time data engineering** (Kafka, Flink, Spark Streaming)
- **Cloud data architecture** (hybrid, serverless, cross-cloud)
- **MLOps/DataOps integration** (reproducibility and reliability)
- **AI pipeline engineering** (DE + LLM infrastructure)

Across 2025 data, these hybrid or automation-oriented roles earn 10–15% higher mean salaries than undifferentiated platform roles, while traditional ETL-centric roles continue to flatten in pay.

HIRING & ORGANIZATIONAL SHIFTS

Firms are increasingly forming smaller, cross-functional platform pods that integrate Data Engineering, DevOps, and ML Engineering.

This streamlines execution and reduces mid-management layers, shifting manager roles toward governance, platform ROI, and AI readiness rather than people-management scale.



CANDIDATE MOTIVATIONS

- **High-impact AI initiatives** where pipelines directly support model success.
- **Access to modern toolchains** — cloud-native, serverless, streaming, and agentic-AI-ready environments.
- **Continuous learning** in MLOps, DataOps, and AI platform engineering.
- **Hybrid / remote flexibility**, though fully-remote roles pay 3–5% less on average.
- **Clear advancement paths** into staff, principal, or platform-lead roles.

2025 OUTLOOK

As AI becomes core to enterprise workflows, the line between Data Engineer and AI Infrastructure Engineer will continue to blur, positioning data engineering at the center of the AI transformation era.





SECTION 2

COMPENSATION CHANGES

JOB LEVEL SEGMENTATION

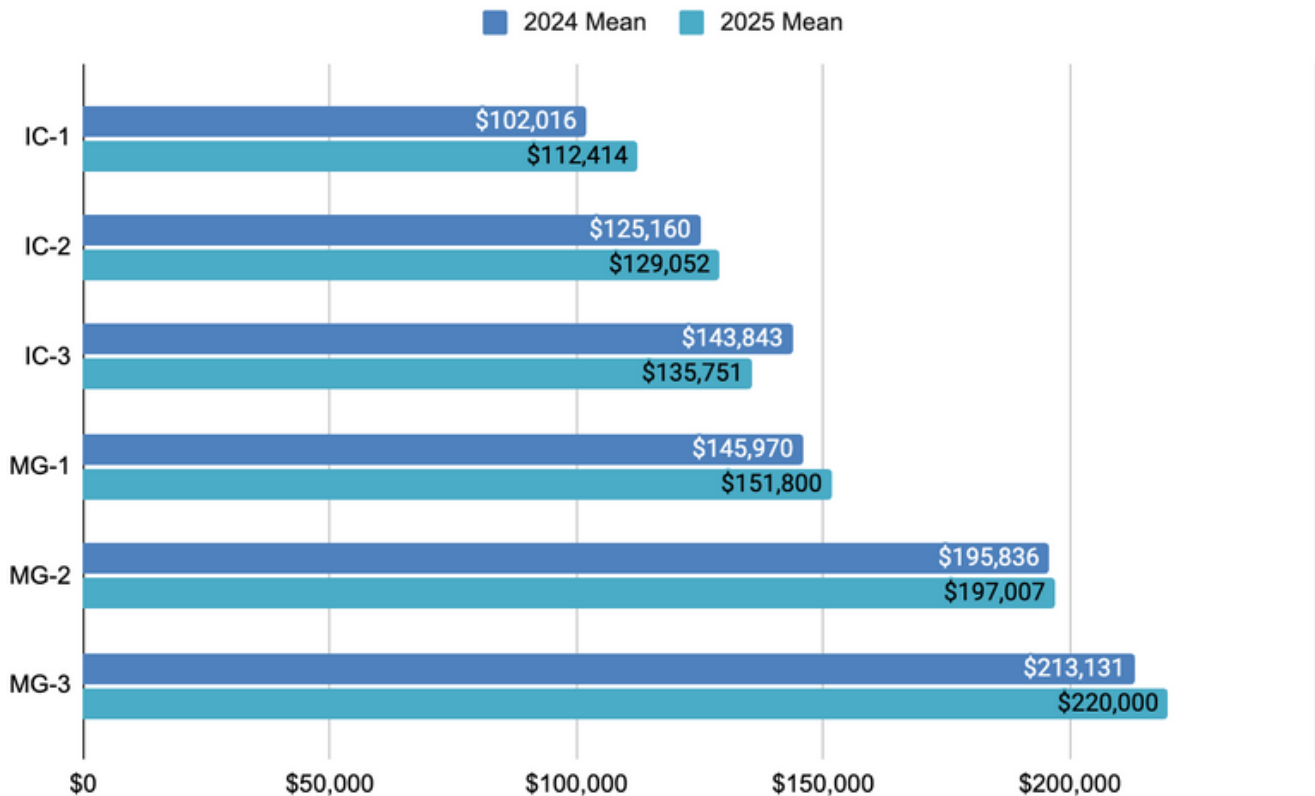
To examine how the compensation of Data Engineers varies, Burtch Works used characteristics of their jobs (level, location of employer, industry) and demographic characteristics (gender, years of experience, residency status) to segment data scientists.

Burtch Works has developed the following job categories:

Individual Contributors		
Level	Responsibilities	Typical Years of Experience
IC-1	Learning the job, hands-on. <i>Data Engineer</i>	0-3 years
IC-2	Hands-on, more advanced problems, may help train. <i>Sr. Data Engineer or Lead Data Engineer</i>	4-8 years
IC-3	Subject-matter expert, mentoring and some training. <i>Principal Engineer</i>	9+

Managers		
Level	Responsibilities	Typical # of Direct Reports
MG-1	Tactical, leads a small team within a function, product exclusion responsibility. <i>Manager or Senior Manager</i>	1-3 reports (direct or matrixed)
MG-2	Leads a function, moderately sized team, executes strategy. <i>Associate Director, Director, or Senior Director</i>	4-14 reports (direct or matrixed)
MG-3	Senior/executive management, determine strategy, large team. <i>VP or Head of Data Engineering/Architecture</i>	15+ (direct or matrixed)

COMPENSATION CHANGES: 2024 AND 2025 BASELINE DATA



Year-over-Year (YoY) — 2024 → 2025

What changed vs. last year's narrative:

- IC-1 rebounded sharply (+10%), reversing prior softness and signaling renewed demand for early-career data engineers as AI and data infrastructure hiring ramps back up. What we've seen is there is an overall decrease in demand for early career DE professionals.
- IC-2 saw modest gains (+3%), consistent with steady mid-level hiring and a normalization of salary bands following 2023's surge.
- IC-3 declined (-6%), suggesting title compression and possible reclassification of senior IC roles into manager-track positions or blended MLOps roles.
- MG-1 rose slightly (+4%), though small sample sizes temper interpretation; growth reflects incremental pay adjustments for first-line managers.
- MG-2 remained effectively flat (+1%), underscoring continued emphasis on lean organizational layers and consolidation of mid-management responsibilities.
- MG-3 increased (+3%), reflecting premium compensation for strategic data leaders overseeing AI infrastructure and enterprise data modernization efforts.

COMPENSATION CHANGES: 2024 AND 2025 BASELINE DATA

Individual Contributor Compensation Changes for Data Engineering Professionals						
Level	Year	25%	Median	Mean	75%	N
IC-1	2024	\$85,000	\$100,000	\$102,016	\$120,000	187
	2025	\$91,250	\$110,000	\$112,414	\$127,500	58
	Change	+7%	+10%	+10%	+9%	
IC-2	2024	\$110,000	\$125,000	\$125,160	\$140,000	290
	2025	\$110,000	\$130,000	\$129,052	\$141,050	359
	Change	0%	+4%	+3%	+1%	
IC-3	2024	\$130,000	\$140,000	\$143,843	\$160,000	200
	2025	\$120,000	\$140,000	\$135,751	\$150,000	437
	Change	-8%	0%	-6%	-6%	

Manager Compensation Changes for Data Engineering Professionals						
Level	Year	25%	Median	Mean	75%	N
MG-1	2024	\$122,500	\$155,000	\$145,970	\$170,000	23
	2025	\$125,000	\$160,000	\$151,800	\$164,000	5
	Change	+2%	+3%	+4%	-4%	
MG-2	2024	\$180,000	\$200,000	\$195,836	\$212,500	22
	2025	\$177,500	\$200,000	\$197,007	\$227,500	15
	Change	-1%	0%	+1%	+7%	
MG-3	2024	\$200,000	\$210,000	\$213,131	\$221,250	16
	2025	\$175,000	\$220,000	\$220,000	\$266,250	12
	Change	-13%	+5%	+3%	+20%	



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PAGE | 09

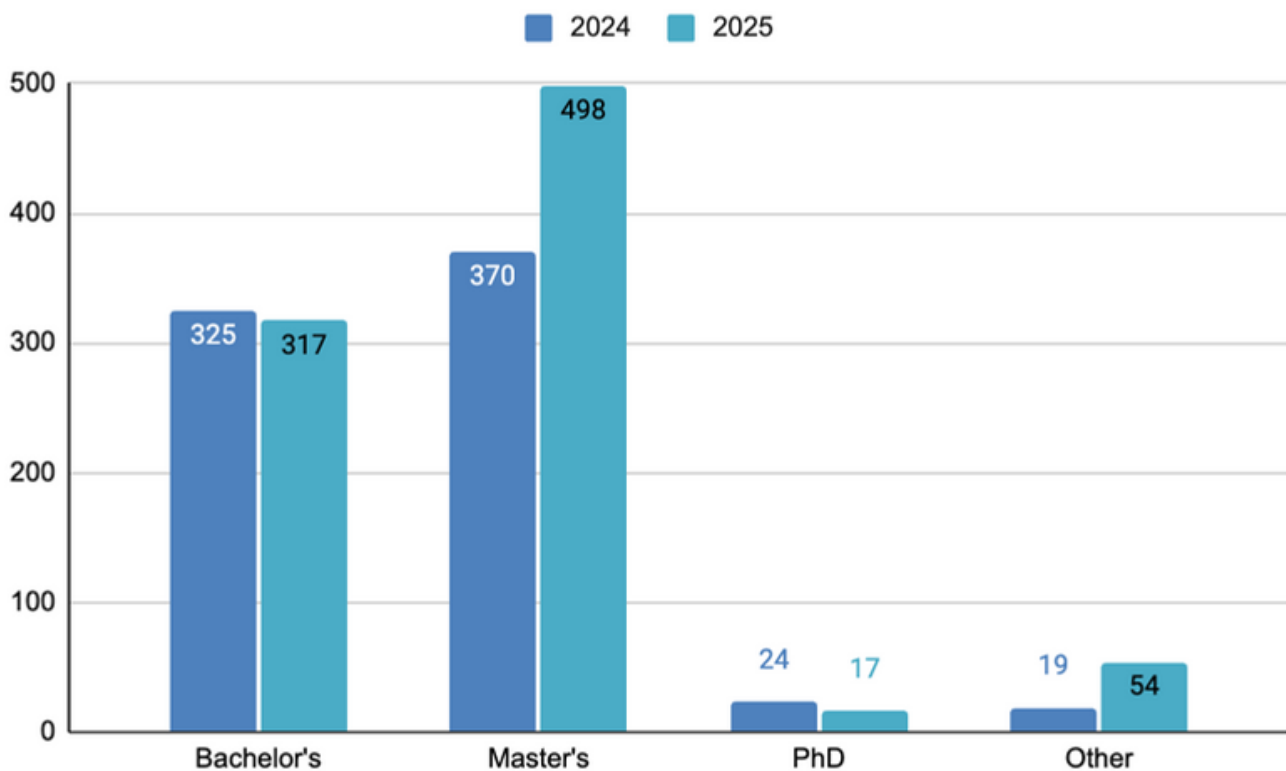
DEMOGRAPHIC PROFILE

SECTION 3

DEMOGRAPHIC PROFILE

EDUCATION: DEGREE BREAKDOWN

Degree Level for Data Engineering Professionals

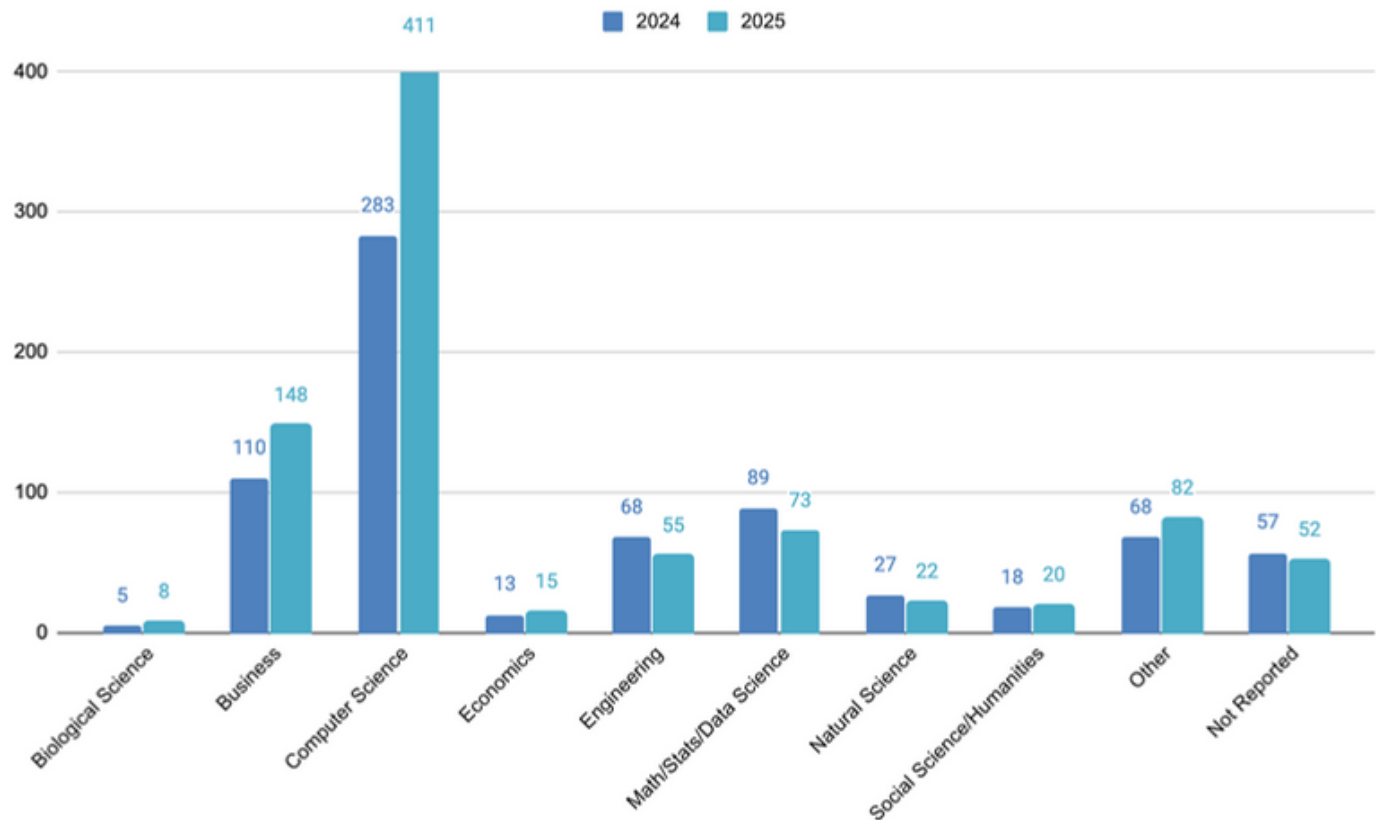


Key Takeaways

- Master's degrees increased sharply (370 → 498, +35%).
- Bachelor's remained steady (325 → 317).
- Doctorates declined (24 → 17).
- Alternative degrees rose significantly (19 → 54), suggesting broader or alternative educational backgrounds entering the data-engineering field.
- Understanding business/strategy is a key component of growing a long term DE career, as we've seen with an uptick in business degree amongst DE professionals.

EDUCATION: AREAS OF STUDY

Areas of Study for Data Engineering Professionals



Key Takeaways

- Computer Science remains dominant, growing from 283 → 411 respondents (+45%), underscoring its continued centrality to data engineering.
- Business backgrounds expanded notably (110 → 148, +35%), reinforcing the trend of hybrid technical–commercial talent blending data engineering with business fluency.
- Engineering dropped modestly (68 → 55), possibly signaling reduced crossover from traditional engineering pipelines.
- Other fields increased (68 → 82), indicating a gradual broadening of entry paths — from bootcamps and applied analytics programs to interdisciplinary STEM entrants.

EDUCATION: SALARIES BY JOB LEVEL

Base Salaries by Degree Level for Data Engineering Individual Contributors

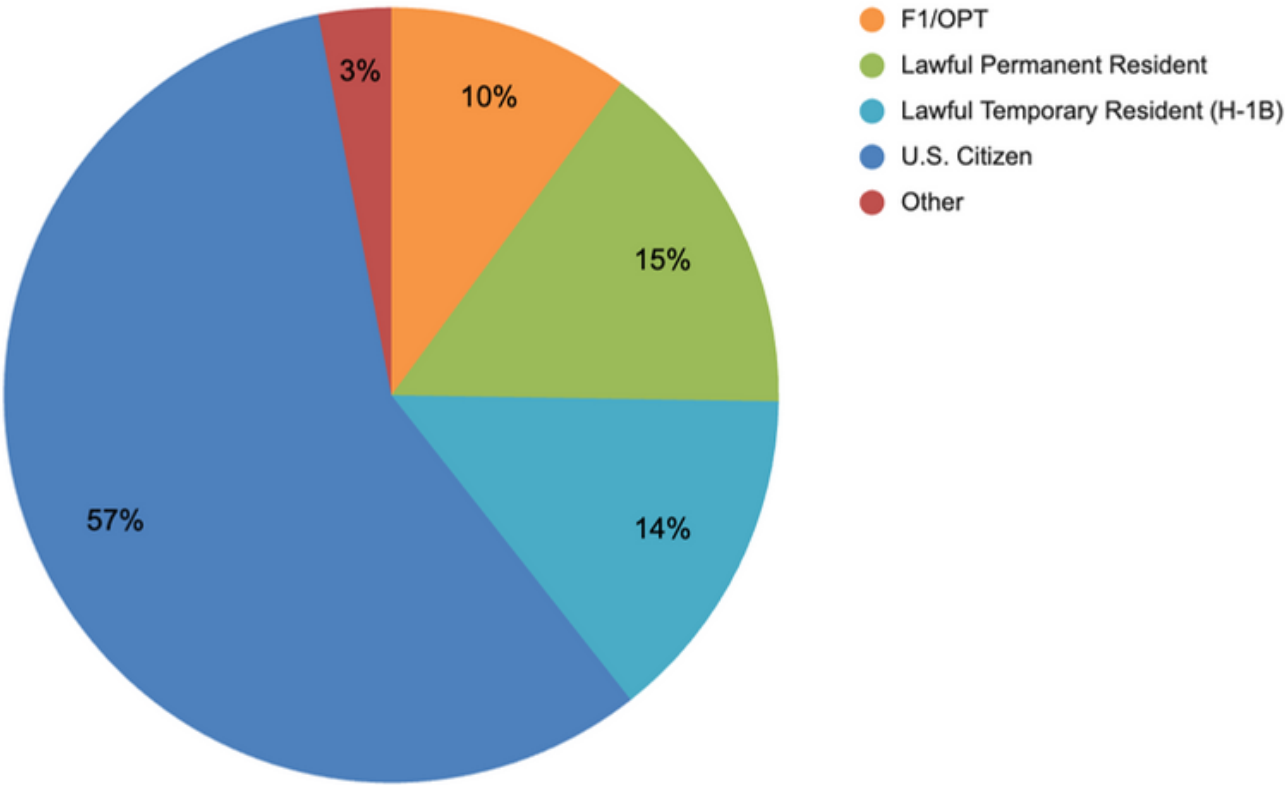
Level	Education	Base Salary			
		25%	Median	Mean	75%
IC-1	Bachelor's	\$90,000	\$100,000	\$111,714	\$120,000
	Master's	\$92,500	\$110,000	\$112,000	\$125,000
	PhD	\$116,000	\$116,000	\$116,000	\$116,000
IC-2	Bachelor's	\$110,000	\$128,000	\$125,721	\$140,000
	Master's	\$115,000	\$130,000	\$131,519	\$145,000
	PhD	\$175,000	\$180,000	\$191,667	\$202,500
IC-3	Bachelor's	\$120,000	\$140,000	\$137,986	\$150,000
	Master's	\$120,000	\$130,000	\$133,848	\$150,000
	PhD	\$130,000	\$150,000	\$143,846	\$150,000

Base Salaries by Degree Level for Data Engineering Managers

Level	Education	Base Salary			
		25%	Median	Mean	75%
MG-1	Bachelor's	\$142,500	\$160,000	\$149,667	\$162,000
	Master's	\$122,500	\$155,000	\$155,000	\$187,500
MG-2	Bachelor's	\$151,250	\$177,500	\$155,000	\$181,250
	Master's	\$203,750	\$222,500	\$217,510	\$233,825
MG-3	Bachelor's	\$150,000	\$160,000	\$206,000	\$270,000
	Master's	\$195,000	\$240,000	\$230,000	\$260,000

RESIDENCY STATUS

Data Engineering Professionals Residency Status Breakdown



DATA ENGINEERING SALARIES BY REGION

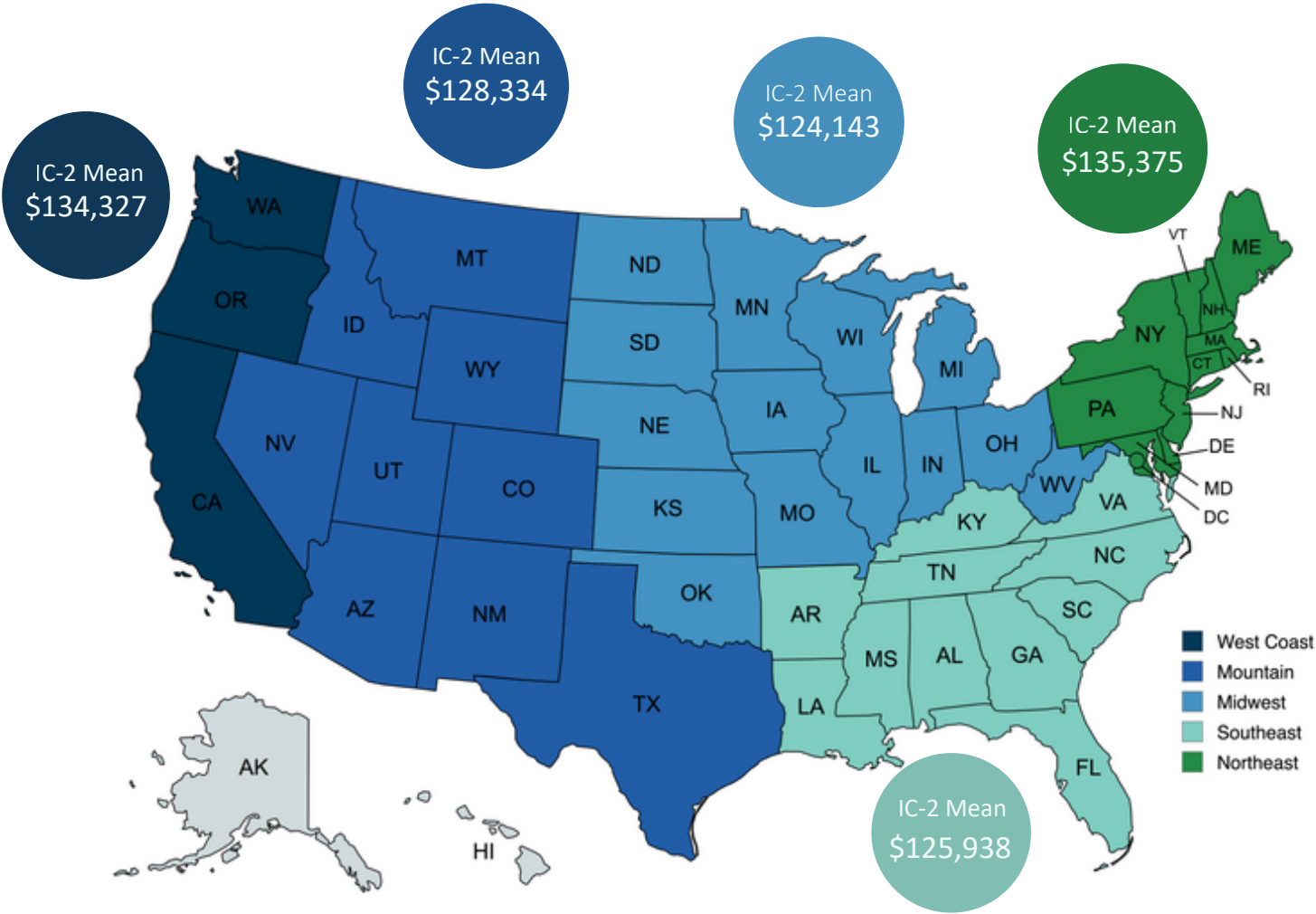
Level	Region	Base Salary			
		25%	Median	Mean	75%
IC-1	Midwest	\$95,000	\$100,000	\$113,294	\$130,000
	Mountain	\$105,000	\$110,000	\$113,571	\$120,000
	Northeast	\$85,000	\$105,000	\$112,522	\$129,000
	Southeast	\$123,000	\$130,000	\$132,000	\$140,000
	West Coast	\$85,000	\$100,000	\$96,429	\$110,000
IC-2	Midwest	\$110,000	\$130,000	\$124,143	\$140,000
	Mountain	\$110,000	\$130,000	\$128,334	\$145,250
	Northeast	\$120,000	\$135,000	\$135,375	\$150,000
	Southeast	\$110,000	\$125,000	\$125,938	\$140,000
	West Coast	\$110,000	\$130,000	\$134,327	\$150,000
IC-3	Midwest	\$110,000	\$130,000	\$130,392	\$145,000
	Mountain	\$120,000	\$130,000	\$133,513	\$141,500
	Northeast	\$130,000	\$140,000	\$141,596	\$150,000
	Southeast	\$120,000	\$130,000	\$134,211	\$150,000
	West Coast	\$120,000	\$140,000	\$138,001	\$150,000

Level	Region	Base Salary			
		25%	Median	Mean	75%
MG-1	Midwest	\$90,000	\$90,000	\$90,000	\$90,000
	Northeast	\$142,500	\$160,000	\$168,333	\$190,000
	Southeast	\$164,000	\$164,000	\$164,000	\$164,000
MG-2	Midwest	\$200,000	\$225,000	\$210,000	\$227,500
	Mountain	\$187,500	\$190,000	\$203,367	\$212,550
	Northeast	\$180,000	\$215,000	\$189,000	\$220,000
	Southeast	\$200,000	\$200,000	\$200,000	\$200,000
	West Coast	\$165,000	\$170,000	\$190,000	\$205,000
MG-3	Midwest	\$160,000	\$190,000	\$193,000	\$200,000
	Northeast	\$261,250	\$267,500	\$267,500	\$273,750
	Southeast	\$210,000	\$240,000	\$230,000	\$255,000
	West Coast	\$187,500	\$225,000	\$225,000	\$262,500

Key Takeaways

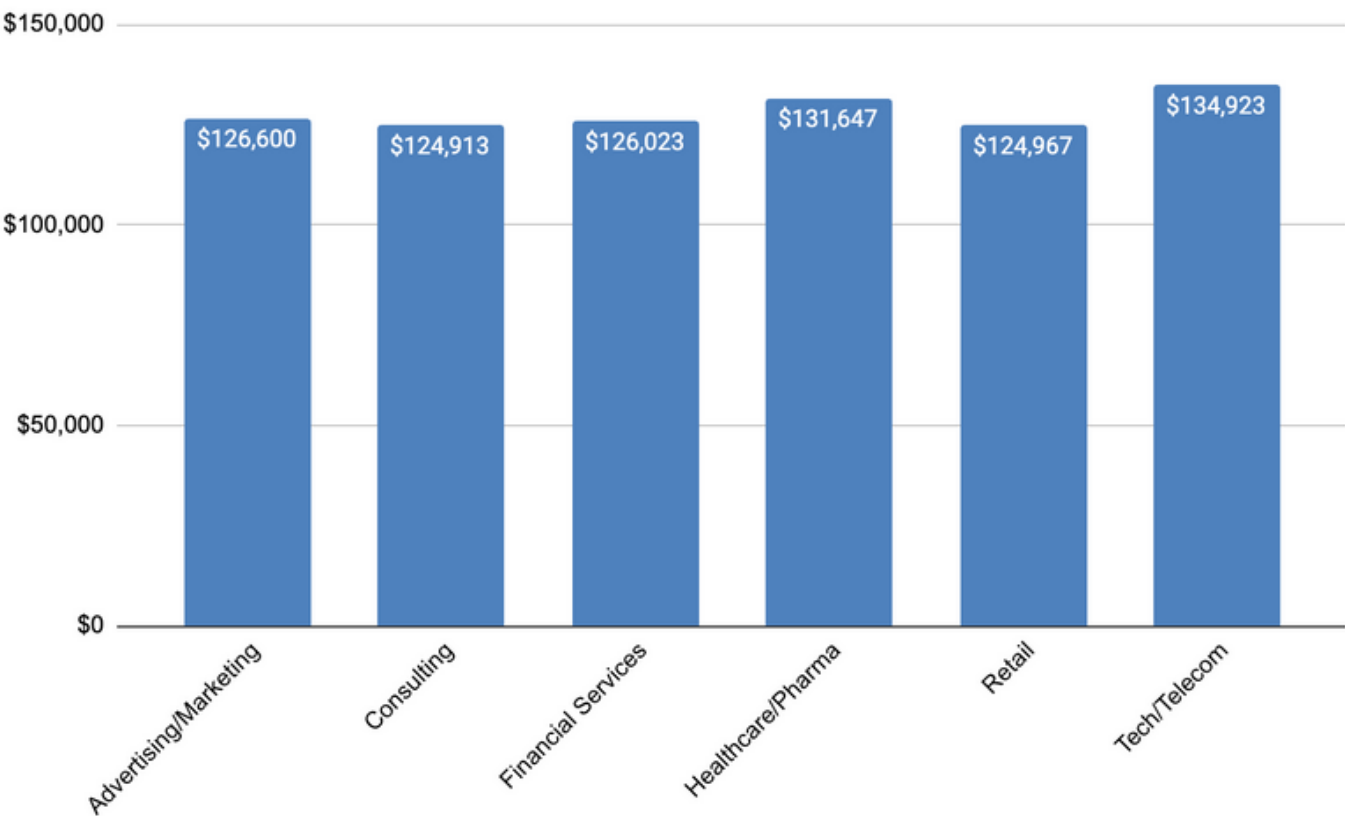
- Northeast continues to command the highest IC and Manager averages, particularly for MG-3, with medians exceeding \$260 K.
- West Coast salaries remain elevated but slightly compressed relative to prior years, suggesting market stabilization.
- Midwest and Southeast roles cluster around \$120–135 K for ICs and \$190–210 K for managers, reflecting strong cost-adjusted value.
- Mountain region salaries have narrowed the gap with coastal markets, particularly at the MG-2 level.

IC-2 DATA ENGINEERING SALARIES BY REGION



INDUSTRY BREAKDOWN

Comparison of Data Engineering IC-2 Mean Base Salaries Across Industries



INDUSTRY BREAKDOWN

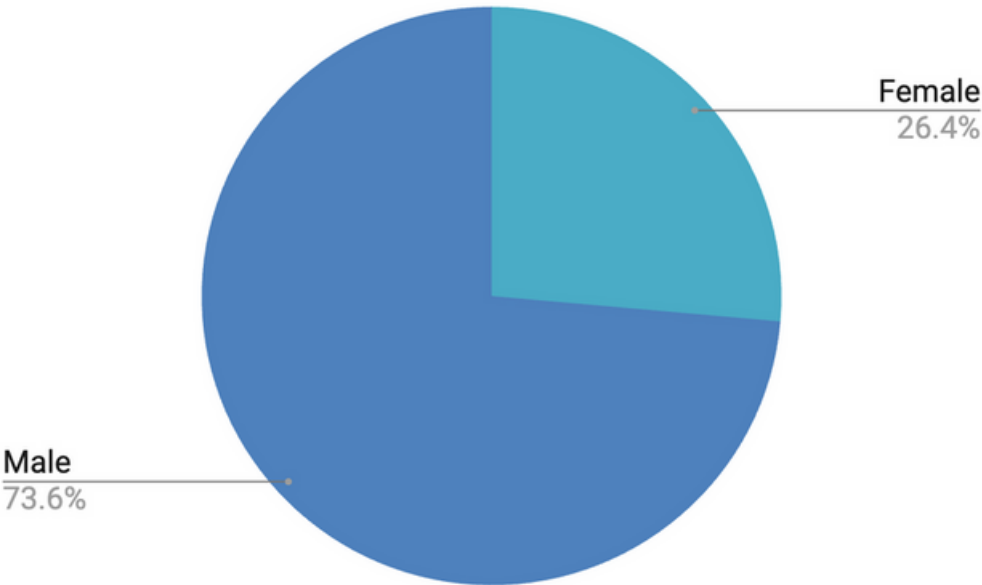
Base Salaries by Job Level and Industry for Data Engineering ICs

Level	Industry	Base Salary			
		25%	Median	Mean	75%
IC-1	Advertising/Marketing	\$100,000	\$100,000	\$100,000	\$100,000
	Consulting	\$92,500	\$100,000	\$108,200	\$139,000
	Financial Services	\$96,000	\$100,000	\$109,200	\$120,000
	Healthcare/Pharma	\$100,000	\$120,000	\$123,000	\$150,000
	Retail	\$88,750	\$100,000	\$101,250	\$112,500
	Tech/Telecom	\$110,000	\$125,000	\$130,000	\$132,500
	Other	\$91,250	\$110,000	\$109,550	\$120,000
IC-2	Advertising/Marketing	\$107,750	\$125,000	\$126,600	\$146,250
	Consulting	\$110,000	\$130,000	\$124,913	\$140,000
	Financial Services	\$113,500	\$130,000	\$126,023	\$142,500
	Healthcare/Pharma	\$110,000	\$130,000	\$131,647	\$140,000
	Retail	\$105,500	\$120,000	\$124,967	\$140,000
	Tech/Telecom	\$120,000	\$135,000	\$134,923	\$145,250
	Other	\$110,000	\$130,000	\$129,988	\$140,000
IC-3	Advertising/Marketing	\$140,000	\$150,000	\$150,625	\$163,750
	Consulting	\$120,000	\$140,000	\$135,667	\$150,000
	Financial Services	\$120,000	\$135,000	\$134,157	\$150,000
	Healthcare/Pharma	\$110,000	\$130,000	\$134,250	\$150,500
	Retail	\$120,000	\$138,000	\$136,067	\$150,000
	Tech/Telecom	\$127,500	\$140,000	\$140,680	\$160,000
	Other	\$120,000	\$130,000	\$134,602	\$150,000

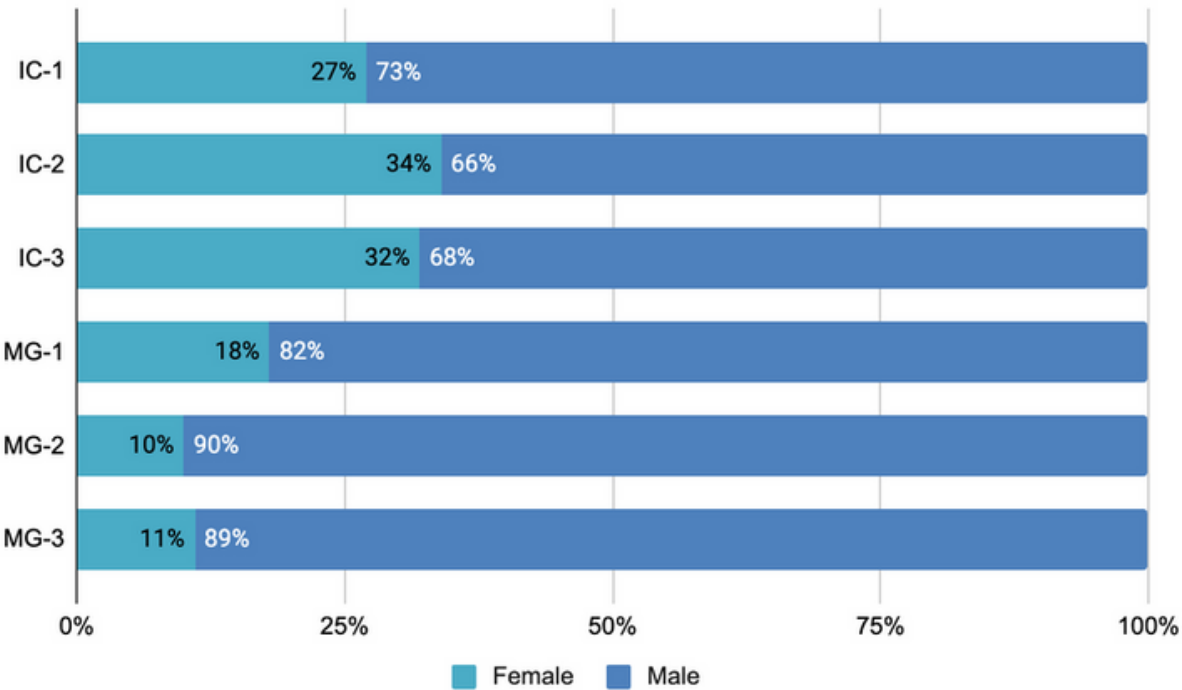
Base Salaries by Job Level and Industry for Data Engineering Managers

Level	Industry	Base Salary			
		25%	Median	Mean	75%
MG-1	Advertising/Marketing	\$90,000	\$90,000	\$90,000	\$90,000
	Healthcare/Pharma	\$175,000	\$190,000	\$190,000	\$205,000
	Retail	\$134,750	\$144,500	\$144,500	\$154,250
MG-2	Consulting	\$200,000	\$225,000	\$211,700	\$230,050
	Healthcare/Pharma	\$190,000	\$215,000	\$209,000	\$220,000
	Retail	\$177,500	\$195,000	\$195,000	\$212,500
	Other	\$180,000	\$185,000	\$177,000	\$200,000
MG-3	Consulting	\$272,500	\$275,000	\$275,000	\$277,500
	Healthcare/Pharma	\$246,250	\$252,500	\$252,500	\$258,750
	Retail	\$155,000	\$160,000	\$166,667	\$175,000
	Tech/Telecom	\$165,000	\$180,000	\$210,000	\$240,000
	Other	\$213,750	\$227,500	\$227,500	\$241,250

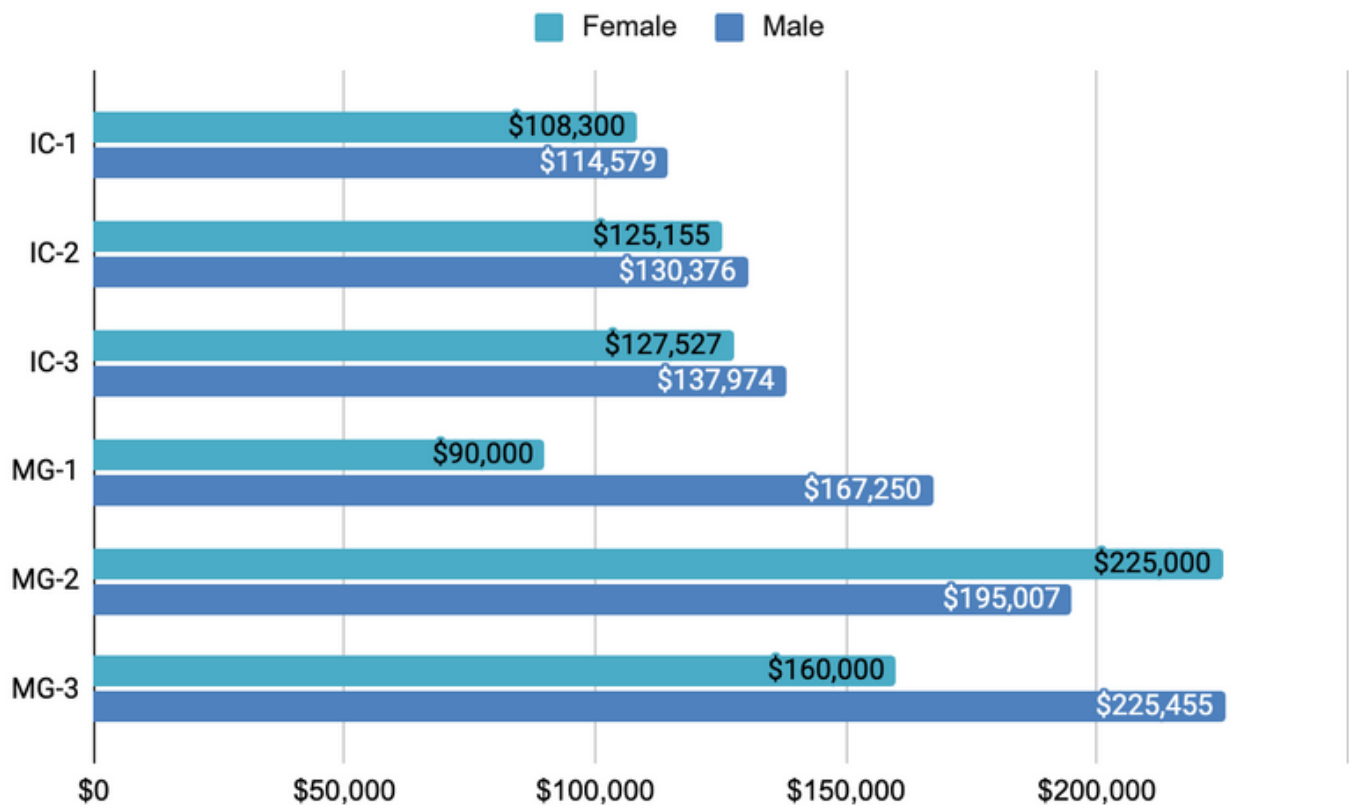
COMPARISON OF DATA ENGINEERING PROFESSIONALS BY GENDER AND JOB LEVEL



Data Engineering Professionals Distribution by Gender and Job Level



COMPARISON OF DATA ENGINEERING PROFESSIONALS MEAN BASE SALARIES BY GENDER



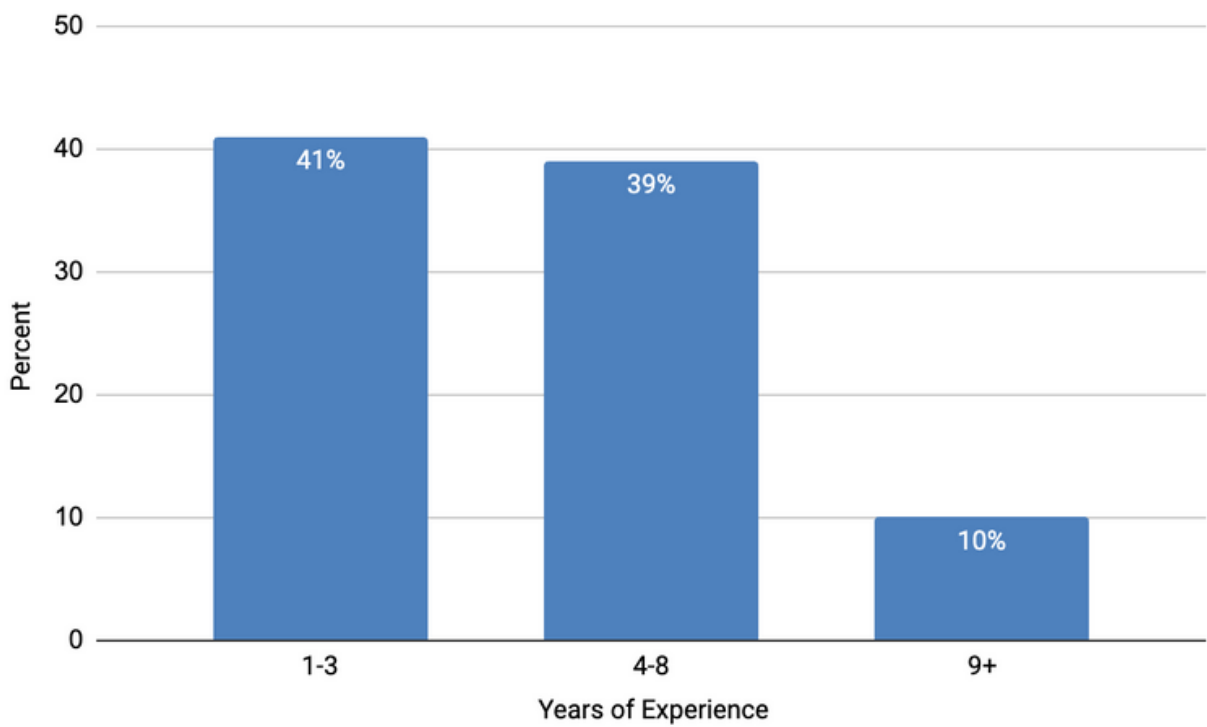
Key Takeaways

- Gender pay gaps remain relatively modest at the IC levels (2–3 %), suggesting improved parity among early- and mid-career engineers.
- Female mean pay growth (+8 – 10 % YoY) kept pace with the overall market, aided by stronger early-career representation and increased visibility of advancement initiatives.
- Continued focus on promotion velocity and leadership development for senior-level female data engineers remains the most direct path toward full parity.

YEARS OF EXPERIENCE



Distribution of Data Engineering Professionals by Years of Experience



Data Engineering remains a comparatively young discipline, with a large mid-career cohort feeding the IC-2 band.



SECTION 4

APPENDICES

Appendix A: Report Objective & The Sample

The Sample

Total Sample Size: 883 data engineering professionals

Collection Period: August 1, 2024 – July 31, 2025

Inclusion Criteria:

- Met Burtch Works definitions for Data Engineering professionals.
- Provided complete compensation and job details through validated interviews.
- Employed in U.S.-based organizations across AI, analytics, and technology functions.

Report Objective

This fourth annual Data Engineering Compensation Report provides a transparent, longitudinal view of salary trends across job levels, industries, and regions.

It serves as a benchmark for both professionals and employers to understand market rates amid rapid AI-infrastructure expansion and MLOps integration.

Why The Burtch Works Studies Are Unique

- **Interview-verified data:** Every participant interviewed by a Burtch Works recruiter; no self-reported surveys.
- **Functional focus:** Captures true Data Engineering roles and adjacent functions (e.g., MLOps, Analytics Engineering).
- **Depth of context:** Each entry includes education, industry, region, and years of experience for multi-dimensional analysis.
- **Trend continuity:** Year-over-year methodology preserved to enable consistent comparisons (2022 → 2025).
- **First-party validation:** Cross-checked with client compensation benchmarks and market offers to confirm accuracy.

Identifying Data Engineering Professionals

Data Engineers design, build, and maintain systems for collecting, storing, and analyzing data at scale—forming the foundation for AI and analytics workflows.

Common Elements in Profiles

- **Education:** Primarily Bachelor's or Master's in Computer Science, Information Systems, Engineering, or Data Science.
- **Technical Stack:** Python, SQL, Spark, Databricks, Airflow, AWS Glue, and Kafka.
- **Cloud Platforms:** AWS, Azure, GCP — hybrid and multi-cloud architectures on the rise.
- **Emerging Skills:** MLOps, Data Ops, LLM pipeline optimization, and real-time streaming.
- **Job Titles:** Data Engineer, Senior Data Engineer, Analytics Engineer, Data Architect, Manager of Data Engineering, Head of Data Platform.

Appendix B: Glossary of Terms

Base Salary: An individual's gross annual wages, excluding variable or one-time compensation such as relocation assistance, sign-on bonuses, bonuses, stock options, and long-term incentive plan compensation.

Data Engineer: A professional who designs and builds systems for collecting, storing, and analyzing data at scale. These engineers are also typically responsible for building data pipelines to bring together information from different source systems.

Data Ops: Operational discipline for continuous integration and delivery of data pipelines.

Data Scientist: A specialized data and analytics professional who has both the programming proficiency required to make enormous sets of unstructured data accessible and also analytical skills for deriving useful information from those data.

Hybrid Data Architecture: Integrated model blending on-prem and multi-cloud resources.

Individual Contributor Levels (IC-1 - IC-3): Hands-on roles ranging from entry to principal.

Industry: One of eight groups of firms employing most data professionals. These eight industry categories are Academia/Government, Advertising/Marketing Services, Consulting, Financial Services, Healthcare/Pharmaceuticals, Retail & Consumer Packaged Goods (CPG), Technology/Telecom, and Other (includes areas like logistics, heavy industry, transportation, restaurants, hospitality, etc.).

LLM Pipeline: Data architecture supporting large language model training and evaluation.

Manager Levels (MG-1 - MG-3): Leadership roles spanning team management to data strategy ownership.

MCP Server (Multi-Connector Platform): Framework allowing organizations to expose proprietary data to AI agents via secure APIs.

Mean: Arithmetic average of reported base salaries.

Median: Midpoint salary in ordered distribution.

N: The number of observations in a sample, sub-sample, or table cell.

Programming: The process of developing and implementing various sets of instructions to enable a computer to do a certain task. For the purposes of this report, programming refers to the use of general-purpose programming/scripting languages such as Python, Java, C, C++, or others.

Prompt Engineering: The design and iteration of LLM prompts to optimize AI outputs.

Salary Report: A study conducted to measure the salary distributions of those in specific occupations. Traditionally, these studies have been executed by obtaining salary data from the human resources departments of firms employing professionals in those occupations or through online surveys, rather than by interviewing those employees themselves as Burtch Works does.



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