Dr. Samantha Carter

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Principal Data Engineer | "Wormholes, quantum mechanics, and ETL jobs—it's all tensors to me."
Location: Cheyenne Mountain Complex
Email: samantha.carter@sg1.de | Phone: Classified

PROFILE
Astrophysicist turned Principal Data Engineer with deep expertise in multi-dimensional data flows, anomaly detection,
and cross-galaxy schema evolution. Adept at designing architectures that remain reliable under extreme pressure—whether
that means running on unstable alien technology or explaining Spark partitions to generals. Experienced in leading
mission-critical analytics projects, often in environments where downtime isn't an option because Earth might get invaded.

TECHNICAL SKILLS
- Languages: Python, SQL, C++, Java, Ancient dialects, Goa'uld (reading only)
- Pipelines & Orchestration: Airflow, Luigi, Prefect, hand-built Stargate orchestration systems
- Cloud & Storage: AWS, Azure, Ancient data crystals, SGC's on-prem "vault cluster"
- Specialties: Schema evolution across galaxies, low-latency anomaly detection, distributed systems with wormhole latency
- Soft Skills: Diplomacy, calm in high-stakes situations, explaining quantum mechanics to colleagues who "just wanted a dashboard"

EXPERIENCE
Stargate Command – Principal Data Engineer (1997–Present)
• Designed a federated query system connecting data warehouses across multiple worlds, bridging incompatible technologies.
• Engineered real-time wormhole stability dashboards processing millions of sensor readings per second.
• Migrated decades of mission logs from Oracle to Snowflake, handling corruption caused by wormhole interference and cyberattacks.
• Built Airflow-based ETL pipelines integrating off-world telemetry and mission debriefs into a unified data warehouse.
• Led a cross-functional initiative to train SG teams in data literacy, teaching officers how to query without breaking the system.

NASA – Astrophysicist & Data Specialist (1990–1997)
• Modeled gravitational effects of black holes using distributed simulations (precursor to Spark ML, built on Fortran).
• Collaborated on research into faster-than-light travel—later adapted for Stargate wormhole analytics.
• Developed visualization systems for astrophysics data that informed mission planning for deep space exploration.
• Left to join Stargate Command because "pipelines through wormholes seemed more exciting than spreadsheets on Earth."

PROJECTS
Naquadah-Powered ETL Engine

- Problem: Command required massive ETL throughput for intergalactic sensor logs.
- Solution: Built a Naquadah-powered system capable of 1PB/min throughput.
- Result: Performance unmatched, but exploded in testing 42% of the time. Archived under "too dangerous, but cool."

Stargate Event Logger
- Problem: Stargate activations lacked structured audit trails.
- Solution: Designed a real-time logging pipeline capturing activation metadata.
- Result: Guaranteed exactly-once delivery—except for that one time when two Colonel O'Neills showed up.

Multi-Galaxy Data Mesh
- Problem: Each world maintained its own inconsistent mission logs.
- Solution: Standardized schemas across 15 planets with shared IDs and codes.
- Result: Reduced duplication by 60%, though NULL handling remains debated with Tok'ra engineers.

MISSION DEBRIEF (Sample Outcomes)
- Project: Real-time Goa'uld Intrusion Detection → Outcome: Saved Earth (again).
- Project: Schema Drift Analyzer → Outcome: Prevented catastrophic wormhole collapse.
- Project: Telemetry Compression Pipeline → Outcome: Reduced bandwidth by 78%, freeing Stargate for Netflix.

EDUCATION
- PhD in Astrophysics, MIT – Dissertation on wormhole physics (later confirmed "shockingly accurate" by aliens).
- Numerous on-the-job certifications in Ancient and Asgard technology, usually earned under fire.

PUBLICATIONS
- "A Quantum Approach to Schema Drift" (Journal of Wormhole Studies)
- "Optimizing ETL with Exotic Particles" (co-authored with Teal'c; his only contribution was the word "Indeed")

INTERESTS
- Stargazing, teaching cadets about data and physics, proving McKay wrong in meetings.
- Advocating for documentation, even in life-or-death projects.
- Occasionally blowing up lab equipment "in the name of science."