Tyler Neill *Advanced Software Engineer (IC3)*

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Summary

Experienced interdisciplinary software engineer with a proven track record of designing and developing robust, scalable data pipelines and APIs. Skilled in **Python, orchestration, DevOps, and databases**. Strong background in machine learning, natural language processing, and data visualization.

Passionate about leveraging technology to solve interesting problems and deliver impactful products. Seeking an **advanced to senior backend role** that will allow me to contribute my skills and experience to a dynamic and innovative tech company, while continuously learning and growing as an engineer.

Skills

Main tech stack: Python, Pandas, FastAPI; Kubernetes, Airflow; Flux, GitLab CI/CD; SQL, Cypher, MongoDB.
ML experience: rcNN, TF-IDF, LDA, node2vec, LLM (PubMedBERT).
Natural languages: English (*mother tongue*), German (*fluent*), Sanskrit (*expert*), Italian (*elementary*).
Teaching recognition: Harvard University Derek Bok Center Teaching Certificate, Certificate of Distinction x5.

Experience

BenevolentAI — New York, NY
Advanced Software Engineer (IC3) — *April 2022 - May 2024*

- Designed and developed 100-task pipeline processing 10 GB of structured and unstructured data.
  - Python, Pandas, Gensim, SciPy, Pydantic, Jupyter, Bash; Docker, Kubernetes, Airflow, Make, Kubeflow Pipelines; AWS S3, GitLab CI/CD, GitOps, Flux; Neo4j, Databricks, Elasticsearch, SQLite.
  - Effected **2–3x reduction in downtime** by upgrading orchestration from Make to Kubeflow to Airflow.
  - Achieved **15x gain in training speed** of node2vec embeddings and **70x reduction in memory consumption** by creating Python package (pip-tools, Nexus) to wrap superior library (PecanPy over gensim).
- **Tech lead** of DisGO, a foundational product in the Benevolent Platform™.
  - FastAPI, Swagger, pytest, Locust; semantic-release, Helm; OpenTelemetry, Honeycomb, Grafana.
  - Improved company's internal data dependency DAG with **35% more relationships recorded**.
  - Planned and executed AWS environment migration with zero service downtime.
- Led HackerHour knowledge sharing group for engineers, onboarded several coworkers onto products.

Leipzig University — Leipzig, Germany
PhD Research Associate — *April 2017 - December 2020*

- Created open-source libraries and web-based tools for Sanskrit community as part of dissertation research.
  - vatayana.info for augmenting philological research with text mining (Python, Flask, Jupyter, Javascript, MonogDB; LDA, TF-IDF, Smith-Waterman; Digital Ocean, Docker, Gunicorn, Nginx, HTTPS).
  - skrutable.info for easy text processing (Python, Flask, Javascript; regex; TensorFlow; PythonAnywhere).

Harvard University — Cambridge, MA
Graduate Student Teaching Fellow — *September 2013 - May 2015*

- Mentored Harvard undergrads and grad students in self-designed Sanskrit classes.

Education

Leipzig University — Leipzig, Germany
Doctor of Philosophy, Sanskrit and Digital Humanities — *2017 - 2022*

Harvard University — Cambridge, MA
Master of Arts, Sanskrit and Indian Studies — *2011 - 2015*
Bachelor of Arts, Environmental Science and Public Policy — *2003 - 2008*

Interests

Buddhism, languages, music, philosophy, programming, puzzles, reading, Sanskrit, speed cubing, video games.