Christopher Falter

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PROFESSIONAL SUMMARY

Data science leader and mentor who uses deep experience in software architecture, design, and code to deliver robust prediction services and intelligent systems.

SKILLS

- Solution architecture
- Community dynamics with Twitter data
- Data architecture
- Data engineering/workflows at scale
- Test-driven development
- Agile methodologies
- NLP: Topic modeling, sentiment analysis, document classification
- Document search/retrieval
- Graph analytics
- Computer vision
- Time-series analysis
- Code refactoring

CODE REPOS

https://github.com/chrisfalter/BLM, https://github.com/chrisfalter/DataScience

WORK HISTORY

SENIOR LEAD SCIENTIST   01/2020 to CURRENT

Booz Allen Hamilton, BAH | McLean, VA

Full-stack data scientist, cloud architect, and data architect for federal marketing analytics project. Moved team out of "fixing airplanes while flying them" mode in several ways:

- Refactored analytics processes in Google Cloud Platform to support version control, CI/CD, and improved security.
- DevOps: Designed and implemented Dev/Test/Prod workflow with CI/CD pipelines for analytics apps and processes.
- Introduced automated unit and integration tests into prediction services.
- Rationalized data lake/data warehouse design; implemented data catalog.
- Proposed architecture and technology choices to key government stakeholders; helped negotiate win/win agreements.

Tech lead for parts consumption prediction app

- MLOps: Drove adoption of MLFlow for optimizing ARIMA models
- Drove refactoring of codebase into UI, workflow, and model components
- Created migration plan and to-be design for technology shift (to Databricks/Qlik)

Co-technical lead of FOIA document predictive redaction team

- Led implementation team for NLP/Text analytics (OCR, fuzzy search, pattern matching, named entity recognition)
- Designed rules processing framework for analyst configuration of special FOIA and agency considerations
- Designed containerized, multi-step document processing pipeline on dockerized Airflow in AWS cloud
- Led MLOps efforts for model scoring, optimization, and versioning.

Co-technical lead of marketing investment focused on graph analytics and natural language generation

ASSOCIATE INSTRUCTOR IN ARTIFICIAL INTELLIGENCE *08/2018 to 12/2018*

Indiana University

Question answering, office hours, and grading for graduate course on *Elements of Artificial Intelligence* (part-time)

LEAD SCIENTIST *08/2017 to 12/2019*

Booz Allen Hamilton, BAH | Charleston, SC

Data science SME and data engineer
- Created machine learning pipelines, performed exploratory data analysis
- Coding and optimization of Apache Spark jobs (PySpark, Scala, Java). Reduced wall clock run-time of an ETL job from 10 days to 45 minutes.
- Wrote feature engineering/data enrichment SQL routines on Apache Hive
- Led NLP/topic modeling proposal

SENIOR SOFTWARE ARCHITECT *11/2010 to 07/2017*

Booz Allen Hamilton, BAH | Charleston, SC

- Architect for microservice prototype
- Modeled service contract design
- Assisted technology evaluation efforts
- Collaborated with development teams on system design, code reviews

SOFTWARE ARCHITECT *10/2008 to 11/2010*

Blackbaud | Charleston, SC

Spearheaded TDD movement by prototyping and evangelizing fluent unit tests innovations (test framework generation, LINQ to SQL, extension methods, and lambda expressions)

LEAD TECHNICAL ARCHITECT *08/2008 to 09/2008*

Tiba Solutions | Greenville, SC

Defined architecture for service-based messaging (validation, reliable messaging, and logging)

SENIOR MANAGER, SOFTWARE ARCHITECT *07/2008 to 08/2008*

CSC | Farmington Hills, MI

Evaluated data caching alternatives in distributed system.

SENIOR WEB/WINDOWS DEVELOPER *05/2003 to 07/2008*

Seibels Bruce Group | Columbia, SC

- Created analysis cube to evaluate the reliability of GIS data from competing vendors.
- Established DevOps practices before it was cool: version control, build automation, configuration management across multiple environments, instrumentation to diagnose performance issues.
- Architected, designed, and led development for insurance point-of-sale web application.

APPLICATION DEVELOPMENT CONSULTANT
06/2000 to 12/2002

Microsoft Corporation | Charlotte, NC

Organized scalability testing of customer apps; conducted code and design reviews; managed customer relations with support organization.

ESCALATION ENGINEER
11/1997 to 05/2000

Microsoft Corporation | Charlotte, NC

Collaborated with customers and Microsoft professionals to mitigate and manage issues; debugged Windows 98/95 and Outlook 97/2000 at assembler and source code levels to resolve issues.

SENIOR CONSULTANT
05/1996 to 10/1997

Keane Corporation | Charlotte, NC

Developed software systems in several technologies (C/Unix, Cobol/MVS)

PROGRAMMER ANALYST II
07/1994 to 05/1996

Computer Sciences Corporation | Blythewood, SC

Developed P&C insurance claims systems in C on OS/2 and Cobol/MVS.

TECHNOLOGIES

ML Tools: Tensorflow, nltk, sPacy, scikit-learn, statsmodels, Jupyter notebooks, pandas, matplotlib
MLOps: MLFlow, Vertex AI
DevOps: Google Cloud Build, Google Cloud Source Repositories, git, GitHub, GitLab
Data Engineering: Google Cloud Composer, Airflow, Spark, JSon, YAML, UML
Programming Languages: Python, SQL, Java, Scala, R, .Net Languages, C/C++
Databases: BigQuery, Elasticsearch, Hive, Postgres, SQL Server, Oracle
Platforms: Google Cloud, AWS, K8s, Hadoop, Docker, OpenShift, Linux, Windows/IIS

EDUCATION

AB | Public and International Affairs
Princeton University, Princeton, New Jersey

MS | Data Science
07/2021
Indiana University, Bloomington, IN
GPA: 3.9

PUBLICATIONS

"Activist and Counter-Protest Movements in Tandem: A Longitudinal Analysis of #BlackLivesMatter" (pre-publication). https://github.com/chrisfalter/BLM/blob /main/BLM_Longitudinal_Analysis.pdf

LINKEDIN

https://www.linkedin.com/in/chrisfalter/