

Christopher Toumanian

Data Engineer | Software Developer

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Senior Data Engineer designing cloud data platforms and streaming architectures with Databricks, Kafka, Spark, Airflow, AWS, and Delta Lake. Delivers infrastructure for regulated reporting, data security, and machine learning, with a background in broadcast and visual effects.

■ EXPERIENCE

Aug 2023 - Present

Senior Data Engineer

FanDuel

- Led data warehousing for a prediction-market application from early planning through release; architected pipelines and data models for new products.
- Implemented Confluent Kafka streaming integrated with Databricks and Delta Lake, migrating batch processes to streaming and establishing a machine learning feature store.
- Prepared SOX compliance, regulatory reporting, and data security pipelines supporting the company's preparation for an NYSE listing.
- Developed critical protected services certified by an ITL.

Oct 2021 - Aug 2023

Data Engineer

FanDuel

- Built and maintained BI ETL pipelines using Python, SQL, Pandas, and Airflow; processed batch workloads with Spark and Hive on Amazon EMR and warehoused data in Redshift.
- Migrated pipelines to dbt and contributed to a custom ELT tool.
- Partnered with stakeholders on Tableau KPI dashboards and refined business logic for financial, tax, and regulatory reporting.
- Strengthened data governance, security, and data loss prevention through vendor collaboration and work on the data security team.

Aug 2018 - Oct 2021

Broadcast Operations Engineer

FanDuel

- Supported a 24/7 broadcast studio across live, post-production, and field operations; developed containerized AWS EC2 environments for remote television production.
- Developed C# and C++ applications for inbound live data feeds, master control automation, and on-air visualization of live wagering data.
- Built monitoring dashboards and satellite-downlink QA logging; troubleshoot RF, video, audio, encoders, and switchers.
- Developed low-latency HLS streaming sites using JavaScript, MongoDB, Python, and NGINX; supported OTT automation and CDNs for TVG streaming apps.
- Managed Chyron, Vizrt, Avid, and XPression graphics and automation, plus Avid and Adobe editing systems.

May 2019 - Dec 2024

Solar Observer / Data Analyst

University of Southern California

- Processed solar spectra and HMI dopplergrams for NASA's SDO mission; analyzed solar pressure oscillations on USC's HPC cluster using C, Bash, Python, and Fortran.
- Helped containerize research pipelines with Docker and Singularity and migrate them to USC CARC; developed a PyTorch sunspot tracker to study solar differential rotation.
- Maintained the Mount Wilson 60-foot solar tower and its Birmingham Solar Oscillations Network spectrometer; performed Jupiter methane observations for NASA JPL's Juno mission.

■ EXPERIENCE / CONTINUED

Mar 2019 - Jun 2020

Visual Effects Supervisor

HPLA | Freelance

- Supervised on-set visual effects for music videos and a 2020 BET Awards live-to-tape performance.

Jul 2015 - Aug 2018

Video Engineer

TVG Network Betfair US

- Managed cameras, control units, replay systems, and broadcast equipment for major events including the Breeders' Cup and Pacific Classic.
- Built an automated ticket and weights inventory system with HTML, PHP, JavaScript, and MySQL, exposing data through a web API.
- Developed software to record Equibase True Odds data and format it for broadcast display.

Mar 2015 - Jul 2018

Video Control Operator

Pegasus Communications, Inc.

- Maintained technical quality and compliant transmission of live and recorded telecasts; calibrated camera color, contrast, framing, and image fidelity.
- Trained staff in video control operations.

Feb 2016 - Apr 2017

Lead Software Developer

Torridon Films

- Led a team of 3D modelers and a sound designer developing a virtual theatrical experience in Unity for Oculus Rift.
- Created interactive marketing materials and digital assets using laser scanning and photogrammetry; contributed to film-related projects including Blade Runner 2049.

Aug 2014 - Mar 2015

Visual Effects Artist

Sunset Gower Studios

- Composited and color-graded documentaries, contributed concept designs and 3D renders, and configured and scripted a distributed VFX pipeline.

Mar 2012 - Jun 2012

Visual Effects Artist

Dot & Effects

- Created rotoscoping, matte painting, color, and compositing work for music videos by Skrillex, The Offspring, Owl City, and Pitbull; contributed concept designs for project bids.

■ EDUCATION

Jan 2020 - Present

Pasadena City College

Coursework in Computer Science / Engineering & Technology

Sep 2006 - Sep 2012

Mount San Jacinto College

Coursework in Visual Communication, Multimedia & Computer Science

■ VOLUNTEERING

Sep 2019 - 2020

Volunteer Software Developer

Mount Wilson Institute

- Helped program and configure the 150-foot solar tower's spectrograph and magnetograph for UCLA using LabVIEW and PDP-11 assembly.