

Daryl Drake

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Chicago, IL

Experience

Akuna Capital Quantitative Software Developer	Chicago, IL Aug 2019 - Jan 2023
<ul style="list-style-type: none">Led a cross-functional team to develop and implement an internal trade quality metric system in python, providing real-time analysis of trade quality and risk to all trading desks.Designed, developed, and managed scalable data ETL pipelines using Python, Apache Flink and Apache Kafka on an AWS Elastic Kubernetes cluster, resulting in significantly increased throughput and accuracy of data processing.Orchestrated the entire lifecycle of our streaming services on Kubernetes and Docker, utilizing Grafana and Prometheus to implement comprehensive monitoring dashboards and alerts.Administered multiple Postgres Timescale databases, ensuring their availability, reliability, and security, optimizing performance, and implementing changes to meet business requirements.Collaborated closely with traders to conduct quantitative analysis of trading data using Apache Spark and PostgreSQL, identifying patterns and diagnosing issues within our data infrastructure.Built automated workflows for backfills, daily report generation, and data integrity checks using Databricks and Argo.Developed extensive Python libraries utilized company-wide for efficient data storage and manipulation, and for seamless interfacing with our C++ math APIs.Transformed Jupyter notebooks into production ready Python dashboards using Pandas and Matplotlib, enabling traders and researchers to visually interact with our risk models.	
Jump ARCHES Virtual Reality Lab Software Developer / Research Assistant	Urbana, IL September 2017 - March 2019
<ul style="list-style-type: none">Produced a virtual reality teaching environment for medical students using the Unity game engine, Steam VR and C#, enabling immersive interaction with 3D models of human anatomy.Developed a Python pipeline using PyTorch to automatically segment 2D DICOM MRI and CT scans and convert them into 3D models.	
Epic Systems Software Development Intern	Verona, WI May 2018 - August 2018
<ul style="list-style-type: none">Created a full-stack .NET web app using C# and MySQL for hospital administrators to detect and prevent malicious access patterns in their data research tools.	
Abbvie Pharmaceuticals Engineering Intern	North Chicago, IL May 2016 - August 2016
<ul style="list-style-type: none">Optimized the performance of an auto-assembly unit used in the manufacturing process of medical devices and verified results through tensile strength testing.Designed and prototyped custom fixtures for tensile strength experiments using SolidWorks and Stereolithography/Fused Deposition Modeling 3D printing.	
Tissue Development and Engineering Laboratory Research Assistant	Urbana, IL Oct 2015 - March 2017
<ul style="list-style-type: none">Cultured liver tumor progenitor cells and embedded them on custom fluorescent-bead-gel substrates for traction force microscopy experiments.Analyzed gene expression changes in response to varying growth factors and tensile forces by quantifying mRNA levels through Q-PCR analysis.Utilized numerical analysis techniques in MATLAB and ImageJ to calculate cellular membrane tensile forces.	

Education

University of Illinois Urbana-Champaign MS Computer Science Coursework: Applied Cloud Computing, Natural Language Processing, Practical Statistical Learning	2021 - Present GPA: 4.00
University of Illinois Urbana-Champaign BS Computer Engineering BS Bioengineering Minors: Mathematics and Chemistry	2014 - 2019

Skills

Languages:	PythonScalaBashRMarkdownCSS
Technologies:	Apache KafkaApache FlinkApache SparkGoogle ProtobufDatabrixPandasMatplotlibPyTorchAsyncioMultiThreadingMultiProcessing
Softwares:	ExcelDatagripVSCodeUnityPhotoshopAbleton LiveTraktorMax MSP
Databases:	PostgresSQLTimescalePgBouncerNoSQLDynamoDBSQLite
Cloud Services:	Elastic Kubernetes Service (EKS)Elastic Container Registry (ECR)S3LambdaAPI GatewayEC2AuroraDynamoDBIAM
CI/CD:	DockerKubernetesJenkinsHelmArgoJupyterAnacondaLokiPrometheusGrafanaAWSTerraform
Version Control:	BitbucketGitHubGitLabJIRA

Extracurriculars and Volunteering

Election Judge, Chicago Board of Elections	2023
Radio DJ, University of Illinois	2022 - 2023
Tech Project Leader, American Institute of Aeronautics and Astronautics	2014 - 2019
Co-author, Diseases of the Aorta	2017
Same Day Surgery and Pediatrics Volunteer, Carle Foundation Hospital	2015 - 2017
Student Volunteer, Illini Emergency Medical Services	2015 - 2017
Chapter President, Alpha Sigma Phi Fraternity	2016
Eagle Scout, Boy Scouts of America Troop 46	2007 - 2014