

John Larkin

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EDUCATION

SWARTHMORE COLLEGE

B.S. IN ENGINEERING, FOCUS IN COMPUTER ENGINEERING
May 2017 | Swarthmore, PA
Cum. GPA: 3.82
Major GPA: 3.88

MINOR IN CHEMISTRY

May 2017 | Swarthmore, PA

COURSEWORK

SWARTHMORE COLLEGE

Linear Physical Systems Analysis
Linear Algebra
Data Structures and Algorithms
Differential Equations
Algorithms
Computer Vision

SKILLS

LANGUAGES

Experienced:

- | | | |
|---|--------------|-------------|
| • Python
(fastapi, np,
pd, pytest,
openai) | • Go | • Swift |
| • C++ (xgboost,
armadillo) | • Typescript | • Rust |
| • CSS / HTML | • C# | • AblInitio |
| | • tSQL | DML |

Familiar:

- | | |
|-------------------------------|-------------------|
| • C++ (xgboost,
armadillo) | • \LaTeX |
| • CSS / HTML | • R |

SOFTWARE

Experienced:

- | | | |
|---------------|----------|-------------|
| • Postgres | • k6 | • SSMS |
| • ScyllaDB | • Git | • Ab Initio |
| • Python Libs | • Docker | • Splunk |
| • terraform | • k8s | • Grafana |

Familiar:

- | | | |
|-------------------|---------------|-------------|
| • Miro /
Figma | (tf, nicegui) | • OpenShift |
| • Python Libs | • MATLAB | • HDFS |
| | • SSIS | |

PUBLISHED

- (PyPi) Scylla-Go-Round
- (Chrome) Github PR Formatter
- (ASME Paper) A Process Simulation of Guayule Biorefining, Including an Exergy Analysis

WORK EXPERIENCE

MOJO | STAFF SOFTWARE ENGINEER

August 2025 - present | Remote (NYC)

Tech Stack: Python, C++, Golang, Terraform

- **Parlays** (Py): Lead for repricing solution for executed parlays for top client (8fig deal)
- **Parlays** (Py): Reduced pod memory usage 5x, enabling migration from m-class to c-class instances; increased FastAPI worker density -> delivered higher RPS/\$
- **B2B contracts**: Oversee team of 4 engineers for our B2B initiatives

MOJO | SENIOR SOFTWARE ENGINEER

April 2024 - August 2025 | Remote (NYC)

Tech Stack: Python, C++, Golang, Terraform

- **Parlay Pricing** (Py): Designed FastAPI service for same-game and x-game parlay:
 - Leveraged Parquet files to reduce S3 data transfer and accelerate computation.
 - Worked with algo engineers to implement copula-based correlation pricing.
 - Optimized data operations to construct efficient correlation matrices.
- **Simulations & Aggregation** (C++): Developed optimized **simulation aggregator** for NFL/NBA models, handling player/team/game distributions, writing to Scylla, issuing Kafka messages, refreshing parlays, and processing live game updates.
- **Heartbeat Infra** (Go): End to end owner for EKS heartbeat sidecar service for top client
- **Market Finalization** (Py): Built lambda w/ SportRadar API for MLB/NFL markets
- **Tooling & Automation**:
 - Championed migration to poetry over pipenv, adoption of ruff, mypy, etc.
 - Implemented GHA for streamlined CI/CD workflows across Python repos

DROPBOX | SOFTWARE ENGINEER

October 2021 - April 2024 | Remote (Cincy, SF, NYC)

Tech Stack: Python, TypeScript/React, Rust

- **Dropbox Replay** - Media review tool for video, audio, and images
 - Built Version Comparison and the TLDW feature using OpenAI for transcriptions
 - Lead engineer on FSS Group Sharing, overseeing design, impl, and x-team collab.
 - Lead engineer on Replay quota counting project
- **Dropbox Backup** - Full-stack lead for local and external drive backup
 - Lead for migration of 5M users to new sync engine (Python, Rust, TypeScript)
 - Created AutoSelSyncer to optimize memory usage for multiple EDBs.
- **Mentoring and Recruiting** - presented technical workshop to 55 incoming interns

AB INITIO | FIELD ENGINEER

May 2019 - October 2021 | Chicago, IL

Tech stack: Python, C#, DML, AWS, SQL

- Customer facing engineer building high vol and latency focused data processing systems
- Won contract with healthcare client after optimizing .NET ETL pipeline
- Led successful cloud migration POC at multinational bank to Tanzu k8s grid
- F500 bank, built data ingestion for multiple teams w/ quality + cleansing to Hadoop

BELVEDERE TRADING | SOFTWARE ENGINEER

August 2017 - April 2019 | Chicago, IL

Tech stack: C#, C++, Python, React

- Reconciliation system b/n clearing & and internal trading platform involving heavy MSSQL work
- Implemented new front end Greek visualizations, specifically focused around AP
- Helped build the execution gateway to process FIX messages for OSE
- Member of the BT Recruiting Team as well as Hackathon Committee

INTERESTS

TENNIS

- Accredited Interscholastic Coach - NFHS
- Tennis on the Lake Coach (Chicago)
- 4 year Varsity HS and College

EXTRACURRICULAR:

Hiking & Climbing:

- Mt. Kilimanjaro (2013)
- Mt. Rainier (2011)

Athletics:

- St. George 70.3 (2024)
- Steelhead 70.3 (2023)
- Half Moon Bay Triathlon (2022)
- Indian Wells 70.3 (2021)
- Chicago Triathlon (2018, 2019)
- Chicago Marathon (2017)

Miscellaneous:

- Reading • Blood donations

ORGANIZATIONS

- Sigma Xi • Tau Beta Pi

AWARDS

2016	CoSIDA Academic All-District At-Large Team
2016	Philadelphia Inquirer Academic All-Area
2015 &	All-Centennial Conference
2016	First Team (Singles)
2015 &	Centennial Conference Spring
2016	Academic Honor Roll
2015	Centennial Conference All-Sportsmanship Team

VOLUNTEER EXP.

CITY HOPE | VOLUNTEER

March 2022 - December 2022 | San Francisco, CA

Volunteered at City Hope, an organization aiming to offer a safe place and home for those who don't have enough living space in the Tenderloin.

CHICAGO BOYS AND GIRLS CLUB |

VOLUNTEER

Aug 2018 - Jun 2019 | Chicago, IL

Volunteered at the Pederesen-McCormick Club teaching an introduction to programming class twice a week to spur interest in kids between 9 and 14.

PERSONAL PROJECTS AND FREELANCING

TENNIS SCORIGAMI (SEE TENNIS-SCORIGAMI.COM) | FOUNDRY ENGINEER

November 2024 - present | Remote

Tech stack: NextJS, Typescript/React, Tailwind, Neon, Python, etc

- Built interactive data viz platform tracking unique tennis score permutations inspired by Jon Bois's Football Scorigami across 57 years of professional tennis
- Implemented 2D/3D graph visualizations (SigmaJS & force-graph for progression trees, with matviews queries across 735 Bo3 and 108k+ Bo5 possible score perms
- Designed real-time filtering system {tourn/player/surface/time} with Jotai

SCROLLZ (SEE SCROLLZ.CO) | FOUNDRY ENGINEER

September 2023 - present | Remote

Tech stack: NextJS, Typescript/React, Tailwind, Supabase, Python, OpenAI, AWS (SES, Lambda, Amplify, etc), serverless

- First engineer to build out ingestion system for newsletter aggregation platform
- Custom domain + configured DNS settings for Amazon SES to automatically ingest and utilize `response_format` OpenAI endpoints for customized ingestion summarization
- Impl + design semantic search across content, topics, authors using full text search Postgres computed cols + `to_tsvector` util

WALK IN THE PARQUET (SEE WALKINTHEPARQUET.COM) | FOUNDER

September 2023 - present | Remote

Tech stack: Rust (w. Tauri), NextJS, Python, Tailwind

- Built a lightweight desktop client that locally analyzes and loads Parquet files, to get around MacOS not supporting them naturally. Check website for more info

PERSONAL BLOG | AUTHOR

October 2016 - Present

- Personal coding blog and research site. Some highlights:
 - (2025) Tennis Scorigami
 - (2025) Winning Wordhunt
 - (2024) Hierarchical Agglomerative Clustering

NOURISH | SOFTWARE ENGINEER (3RD ENGINEER)

October 2022 - December 2022 | Remote

Tech stack: Node.js, React, GraphQL, Express, AWS, RDS

- Refactored onboarding flow (appointment availability over provider first) -> higher ToFu
- Designed AWS lambdas, one to automate faxing of chart notes to patient providers
- Configured logical WAL replication; Postgres → RO DWH for product / biz analysts
- Offered a role after the 3 months... probably should have taken it

PORVATA / SPAR INTEGRATION | PRINCIPAL ENGINEER

November 2021 – December 2022 | Cincinnati, OH

Tech stack: Python, Flask, AWS EC2, Gmail/Gsheets integration

- Integrated Porvata with SPAR assembly helping earn Porvata over \$1k MRR
- Shopify Google Pub/Sub webhook traffic for different order states
- Shopify GraphQL queries to pull order management details

LEADERSHIP EXPERIENCE

OVERLAND SUMMERS | SIERRA ADVENTURE LEADER

June 2017 - August 2017 | Chicago, IL

Led three groups of 10-12 5th and 6th graders in a two-week hiking, kayaking, and rafting trip in California's High Sierras and the Lake Tahoe area with co-leader.

RESIDENT ASSISTANT | SENIOR R.A.

Aug 2016 - May 2017 | Swarthmore, PA

Supervisor and leadership role in a residence hall.

TENNIS TEAM | MEMBER & CAPTAIN

Aug 2013 - May 2017 | Swarthmore, PA

Captain Soph - Senior yr of top 30 national team. #1 singles, #2 singles and #3 doubles. Racket stringing business; children's tennis program instructor