Russell Kirkpatrick

(610) 574-9664 | russellkirkpatrick16@gmail.com | github.com/russellkirkpatrick | linkedin.com/in/russell-kirkpatrick

EDUCATION

University of Pittsburgh **April 2025**
Bachelor of Science in Computer Science (*GPA: 3.70/4.00*), *magna cum laude* *Pittsburgh, PA*

- ***Relevant Coursework*:** Operating Systems, Functional Programming, Intro to AI, Software Quality Assurance, Data Structures & Algorithms, Software Engineering
- ***Extracurriculars*:** PittCSC, SteelHacks, Ultimate Frisbee Club, Rock Climbing Club

WORK EXPERIENCE

Full Stack Junior Software Engineer **July 2024 – July 2025**
eServices Payment Technology *Pittsburgh, PA*

- Shipped production features and fixes across React/Redux/Node for an industry grade CRM with thousands of users.
- Wrote Playwright end-to-end tests for core application modules and managed Windows Server + Docker deployments.
- Collaborated with clients and internal teams to translate non-technical requests into engineered solutions.
- Assisted in PCI DSS compliance certification process for documentation, audit support, and readiness.

Full Stack Software Engineering Intern **May 2023 – August 2023**
eServices Payment Technology *Pittsburgh, PA*

- Built an in-house marketing campaign module enabling mass SMS/email delivery via Twilio and SendGrid APIs.
- Restructured SQL database and optimized queries, enhancing data retrieval speed by 25-40% in select modules.
- Implemented internal message tracking and statistical dashboard, avoiding paid 3rd party APIs.
- Developed a dynamic data-filter with conditional logic to construct complex queries for marketing analysis.

Reach Climbing & Fitness **May 2022 – August 2022**
Front Desk Associate *Philadelphia, PA*

- Provided friendly customer service and operational support at a busy indoor climbing facility.
- Conducted beginner climbing instruction, membership management, and retail sales.
- Maintained cleanliness and organization of gym areas to uphold safety and hygiene standards.

PROJECTS

Research Paper Implementation - Lisbon Metric Prediction via Multi-modal Deep Learning
Technologies: Keras/TensorFlow, EfficientNetB0, GeoPandas, Google Maps APIs

- Reproduced a deep learning model integrating satellite and street view imagery for urban metric prediction.
- Processed 56K images and 10k geospatial points to estimate housing price, density, and green-space coverage.
- Implemented with class balanced training, replicating model performance results within 3%.

Concurrent Caching Web Server
Technologies: POSIX Threads, Sockets, Semaphores, mmap, File I/O, HTTP

- Built concurrent HTTP web server supporting multi-process and multi-threaded models.
- Designed race-free LRU style caching, serving 5 most recent pages with ref-counting to reduce disk I/O by 85%.
- Implemented synchronized logging using semaphores/mutexes, recorded request details and CPU time to stats files.

Gridify
Technologies: React (Vite), Node.js, Github Actions, Tailwind CSS, Render, Rest API

- Built a full-stack Spotify playlist app that visualizes and saves users' top tracks, authorized with OAuth 2.0.
- Deployed React/Vite frontend on Github pages and Node/Express backend on Render, automated via Github Actions.
- Designed features to customize and generate personalized Spotify playlists via responsive Tailwind CSS UI.

SKILLS & INTERESTS

Languages: JavaScript, Python, SQL, C, Java, Haskell, R
Frameworks: React, Node.js, Express, Redux, Flask, MUI
ML & Tools: NumPy, Keras/TensorFlow, Pandas/GeoPandas, Matplotlib, Shapely, Docker, Playwright, Windows Server, Git
Interests: Climbing, Skiing, Surfing, Cooking, Music, Art, Travel