William S. Pierce

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EDUCATION

CASE WESTERN RESERVE UNIVERSITY (GPA: 3.921) Aug 2020 – May 2024
  BSE Candidate in both Electrical and Computer Engineering, Dean's List all semesters

BOSTON UNIVERSITY MET COLLEGE Sept – Dec 2018
  Graduate Course MET CS 789 Cryptography

WORK EXPERIENCE

MOBILESPHERE Boston, MA
Machine Learning & Full Stack Engineer May 2023 – Present
- Developed distributed infrastructure and data pipelines for a "Voice Mail Merge" feature of Slybroadcast, a direct to voicemail marketing platform serving well over a million active users
- Created a 50 million file 14TB self-labeled (plain text transcriptions, quantizations, phoneme extractions) Libri-Light audiobook dataset extension
- Used Python, PyTorch, and DeepSpeed to train / validate an ML voice cloning model with short enrollment
- Developed an email support response bot using ChatGPT 4's API that automatically finds user accounts and solves support requests. Enrolled 2 services with the bot, which now acts as the first response for all support
- Operate "on call" for security incidents. Identify and prevent large influxes of malicious requests.
- Implemented a custom fail-to-ban and token-bucket rate limits across multiple services
- For 3 services, created admin web interfaces that include analytics, user search, and customer support tools

Back End Engineer for VPN Services, Full Stack Engineer for Internal Tools Jun – Aug 2022
- Developed a custom OpenVPN build in C++ that supports advanced connection logging & metrics
- Created a client-facing realtime VPN metrics & log aggregator alongside the company's lead engineer

Full Stack Engineer Nov 2019 – May 2020
- Developed a complete REST framework, complete with database interfaces, object models, an object schema validation protocol, and benchmarking tools
- Extended this REST to make the API for Slyfone (later also for sister app Slynumber), which interacted with an existing database schema, Firebase FCM + Crashlytics, and a US phone service provider's APIs
- Optimized SQL & Google GO for slyText, a mass messaging service, improving response times over 2x
- Created a VOIP porting region analysis tool that efficiently accesses multi-million row PostgreSQL tables

AZTHERAPIES Boston, MA
Contract Data Analyst Jul 2020 – Jan 2021
Data Analyst Assistant Sept 2019 – Jul 2020
- Developed a study data stratification & visualization platform. Worked alongside the company's clinical operations team to automate daily data uptake & formatting
- Developed a health care app DOCV with accompanying cloud server infrastructure and business plan

BOSTON UNIVERSITY Boston, MA
Software Contractor Dec 2016 – Jul 2020
- Developed a cloud-based customer management and order fulfillment system for BU's AGNI Magazine
- Shaped the platform to meet the magazine masthead's exact needs
- Scripted the conformation of mishandled FileMaker Pro data into a new & well-validated SQL schema

RELEVANT EXPERIENCE

DEMON DATABASE MANAGEMENT (demondms.com) Boston, MA
Founder & Lead Engineer Jun 2020 – Present
- Created a fully featured cloud-based management platform to help small- to medium-sized nonprofit publishers who can't otherwise afford CRM & subscription management systems
- Have grown to manage over 120,000 customer records and more than $1.2 million of business-critical sales data across 7 internationally acclaimed literary magazines and presses in just 3 years
- Developed drag and drop filter-based advanced search interface, SQL schema parsing console, and all API infrastructure within sub-org Settable (settable.com), offering search query generation as a service
- Designed record-search and record-matching algorithms to automate order entry & order attribution
- Perform regular penetration testing and security analysis of the service and codebase
- Established isolated staging server with rigorous service testing procedures to prevent downtime
- Work with DigitalOcean, CentOS, PHP, Python, SQL, PDO, Redis, PrinceXML, CUPS, ZeroMQ, Google Cloud, Amazon S3, WebSockets, OAuth, Javascript, HTML/CSS
- Developed low-code automation interface that lets users drag, drop, and link sequences of platform actions
- Implemented TOTP 2FA and secure HMAC-based API authentication methods