




# Sebastian Tremblay

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## WORK EXPERIENCE

- Founding Engineer** — GitMarks, *Boston, MA*September 2024 – Present
  - Architected 0-1 Git-native learning management software to expose students to industry development workflows
  - Designed end-to-end AWS infrastructure, ensuring **99.99% uptime for 300 weekly users** via auto-scaling policies, active-active failover, and load balancing. Provisioned with Terraform, serving Dockerized microservices on ECS
  - Engineered distributed, event-driven pipeline for processing GitHub webhooks (*Go, AWS SQS*), preserving in-order execution of **20,000 weekly events**. Automated retries and dead-letter queues, eliminating 95% of manual recovery
  - Managed team of 5 engineers, owning architecture planning, strategic product direction, and one-on-one mentorship
- Software Engineer Intern** — Salesforce, *San Francisco, CA*May 2024 – August 2024
  - Architected observability and monitoring console for document processing service with ~12,000 WAU, providing tools to triage and resolve failures. **Reduced MTTR 30%** by replacing ad-hoc solution with centralized UI (*Angular*)
  - Constructed reactive API routes (*Spring WebFlux*) to aggregate metadata across 3 microservices. Enabled real-time debugging workflows for **1M+ document processing executions** via non-blocking I/O queries (*Redis, R2DBC*)
  - Informed optimized rollout strategy for next-gen LLMs by benchmarking load tests and analyzing synthetic testing results (*Kubernetes, Splunk*). New models expanded subscription tier coverage, **scaling client base 2.4×**
  - Refactored logic and scope for validating document schemas, reducing false errors and **manual review volume 80%**
- Software Tools Co-Op** — Insulet Corporation, *Acton, MA*July 2023 – December 2023
  - Developed QA tool to automate medical device connectivity testing (*C#, MySQL*), processing 4,800 units per day
  - Automated 42 acceptance testing steps (*Python*), **slashing length of tool’s release cycle 80%**. Ignited transition to automated hardware integration testing by spearheading ReadyAPI adoption, leading workshops for non-technical staff
- Software Engineer Intern** — Ultimate Kronos Group (UKG), *Virtual*May 2022 – December 2022
  - Earned Employee of Month award for diagnosing and resolving critical system outage **affecting 6,000+ customers**
  - Developed application in internal hackathon to automate local environment setup for new hires (*Python/Bash Scripts*), reducing average onboarding time by 2 days. Won “Fan Favorite” award, deploying solution to 300+ engineers

## PROJECTS

- AI Agents for NYT Wordle**  | *Python, TypeScript, React, PostgreSQL, Supabase*April 2025
  - Developed Monte Carlo, Greedy, Minimax solvers, achieving 95.9% win rate and 4.25 avg. guess rate across 13k words
  - Deployed Supabase cache to avoid redundant computation, cutting MCTS runtime 35% and minimizing UI latency
  - Leveraged Optuna with TPE Sampler to finetune MCTS model parameters, reducing average guesses by 0.30
- Vision Transformer Facial Detection**  | *Python, PyTorch, NumPy*March 2025
  - Implemented custom Vision Transformer as pre-filter for facial recognition pipeline, discarding 90% of unusable frames
  - Engineered attention map visualization, dissecting information flow across 12 layers to enhance model interpretability
  - Experimented with stochastic depth and weight initialization strategies, boosting performance ~6%
- Raft Consensus Protocol**  | *Python, Networking, Reliability*April 2024
  - Designed and implemented Raft consensus protocol to promote fault-tolerance and consistency in distributed data store
  - Achieved 99.92% request success in simulations of 30% packet loss, concurrent partitions, and consecutive leader failure

## EDUCATION

- Northeastern University**Boston, MA
- Bachelor of Science in Computer Science, Artificial Intelligence. Mathematics Minor***GPA: 3.99/4.00**
- AWARDS: Top 100 Influential Seniors Honoree, Dean’s Scholarship (\$16,000/yr)
- ACTIVITIES: Type 1 Diabetes Fundraising (Raised \$65,000), Career Mentor (60+ clients), Generate Product Development

## TECHNICAL SKILLS

PROGRAMMING LANGUAGES:	Java · Python · TypeScript · Go · C · C#
FRAMEWORKS/LIBRARIES:	Spring WebFlux · PyTorch · Scikit-Learn · Numpy · React
CLOUD/DEVOPS:	AWS ( <i>Cloud Practitioner</i> ) · Kubernetes · Docker · Terraform · Kafka
DATABASES:	Redis · PostgreSQL · MongoDB