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DAVID SLAYBACK

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EDUCATION

- **Northeastern University**, Boston, MA — M.S., Computer Science (AI), GPA 4.0 — Aug 2018 – Dec 2022
- **University of Pittsburgh**, Pittsburgh, PA — B.S., Computer Science, Cum Laude — Aug 2010 – May 2016

TECHNICAL EXPERTISE

- *Agentic engineering:* Claude Code, Codex, Cursor; MCP servers and tool integration, context engineering, reusable skills/plugins, subagent orchestration, evaluation harnesses, RAG, and review-gated coding workflows.
- *ML, data & platforms:* PyTorch, JAX, scikit-learn, causal ML, reinforcement learning, Spark, Ibis, Polars, Kubernetes, AWS, GCP, Airflow, GitHub Actions, MLflow.
- *Languages:* Python, SQL, Rust, Go, C++, Java.

EMPLOYMENT

AI Engineering Program — **Gauntlet AI** — **Sep 2026 – Nov 2026**

- **Grade-level explainer (4B model):** LoRA SFT plus on-policy DPO on Qwen3-4B raised the pass rate on a 387-item rubric eval from 0% to 81%, beating the best-prompted Claude Sonnet (53%); published on Hugging Face.
- **AgentForge Red Team:** multi-agent harness (LLM attacker, oracle-first judge, human-gated reports) that red-teams a live clinical AI co-pilot and replays frozen exploits on each build; 7 findings, 5 fixed and verified.

Distinguished Engineer — **Capital One** — **Aug 2026 – Present**

- Technical lead for a shared LLM platform connecting compliance frameworks, marketing content, and legal review across lines of business, built for auditable, reliable workflows at bank scale.
- Responsible for the platform's tool-calling LLM workflows, retrieval (RAG) over compliance and policy content, evaluation harnesses and release gates, and the tracing and audit controls regulated teams need to adopt them.

Staff Software Engineer (AIML) — **Braze** — **Feb 2026 – Aug 2026**

- Co-led Braze's Predictive and Generative AI team (8B+ MAU platform); introduced agent workflows (MCP, reusable skills, IDE integrations) for engineering, data science, Sales, and Solutions Consulting.
- Built cross-runtime distribution of Braze's agent plugins (manifests, install paths) for Codex, Claude, and Cursor.
- Led catalog personalization via association-rule mining that raised live user coverage from roughly 0.1% to more than 10% on ~ 300 k-item catalogs versus stale popularity fallbacks.
- Consolidated four AIML codebases into one uv/Ruff platform (about $6\times$ faster training, $12\times$ faster inference) and drove ML lifecycle tooling (registry, serving, monitoring) as Braze and OfferFit converged.

Senior Software Engineer II (AIML) — **Braze** — **Jun 2025 – Feb 2026**

- Implemented a novel multi-touch attribution for long-duration actions, unblocking use cases with roughly $1M-class ARR exposure while cutting compute by orders of magnitude; reduced Ibis feature-encoding memory by about 70%.

Applied ML Scientist $\rightarrow$ Senior — **OfferFit** — **Nov 2022 – Jun 2025**

- Refactored model training and prediction onto MLflow, cutting training time and memory by $>$15% and fixing model–config drift that had cost hundreds of customer hours; automated hyperparameter tuning and reward parametrization.
- Built GitHub Actions release, testing, and dependency workflows for the engineering team, and stood up triage guidance that cut product-helpline requests by $>$30%.

Graduate Researcher (RL) — **Northeastern University** — **Aug 2018 – Dec 2022**

- Developed and proved theory for a factored-memory option-critic architecture (PPFOC); led Northeastern's 3-person team for EpiSci's DARPA-ACE entry (multi-agent macro-action RL).

Computer Engineer — **ARL HRED** — **Jun 2016 – Nov 2022**

- Key contributor on a 3-year human-autonomy image labeling program (HAIL); experiment manager for a 6-month EEG-based BCI campaign; mentored 4 interns and reviewed AI/ML proposals and protocols.

ADDITIONAL EXPERIENCE AND AWARDS

- **crucible (C++ ECS engine):** flecs, SDL3, WebGPU/WebGL2, Emscripten; simulates 10M entities at 2.6 ms per tick natively and 1M in the browser under 1 ms, bit-identical between 6-thread native and single-thread WASM.
- **Personal agent runtime:** 60+ authored skills (planning, TDD, review loops, delegation, resume) shipped from one repo to Claude Code, Codex, and Cursor, with an executable eval runner grading skill behavior on seeded cases.
- Civilian Service Medal (2022, DARPA ACE); HRED Honorary Engineering Award (2018, 2019).
- Reviewer for ICLR, ICML, NeurIPS, and AAAI; FIRST robotics judge; math tutor; Habitat for Humanity volunteer.

PUBLICATIONS

1. Ries, A. J., Slayback, D., Fulbright, E., Sligh, M., Gorman, K. & Touryan, J. Congruency Effects in the Attention Network Task: The Influence of Stimulus Onset Asynchrony and Eye Movements. *Journal of Vision* **19,** 127–127 (2019).
2. Ries, A., Slayback, D. & Touryan, J. Effects of Saccade Magnitude, Spatial Frequency, and Ocular Artifact Removal on the Fixation-related Lambda Response. *Journal of Vision* **18,** 522–522 (2018).
3. Ries, A. J., Slayback, D. & Touryan, J. *The Effect of Visual Task Difficulty on the Fixation-Related Lambda Response* 2018.
4. Ries, A. J., Slayback, D. & Touryan, J. The fixation-related lambda response: Effects of saccade magnitude, spatial frequency, and ocular artifact removal. *International Journal of Psychophysiology* **134,** 1–8 (2018).
5. Slayback, D., Abdali, S., Brooks, J., Hairston, W. D. & Groves, P. *Novel methods for eeg visualization and visualization* in *2018 IEEE International Symposium on Circuits and Systems (ISCAS)* (2018), 1–5.
6. Slayback, D. T., Files, B. T., Lance, B. J. & Brooks, J. R. Effects of Image Presentation Highlighting and Accuracy on Target Category Learning. *IEEE Transactions on Human-Machine Systems* **48,** 400–407 (2018).
7. Touryan, J., Slayback, D. & Ries, A. Evoked responses to transient stimuli are associated with saccade reaction time. *Journal of Vision* **18,** 1276–1276 (2018).
8. Lance, B. J., Ries, A. J., Lawhern, V. J., Slayback, D. T. & Gutstein, S. M. Towards Multiclass Brain-Computer Interface for Joint Human-Computer Image Analysis (2017).
9. Touryan, J., Slayback, D. & Ries, A. Fixation-related Potentials as a Natural Index of Task Difficulty: Single-trial Classification. *Journal of Vision* **17,** 530–530 (2017).
10. Mallick, R., Slayback, D., Touryan, J., Ries, A. J. & Lance, B. J. *The use of eye metrics to index cognitive workload in video games* in *2016 IEEE second workshop on eye tracking and visualization (etvis)* (2016), 60–64.
11. Brooks, J., Slayback, D., Shih, B., Marathe, A., Lawhern, V. & Lance, B. J. *Target class induction through image feedback manipulation in rapid serial visual presentation experiments* in *2015 IEEE International Conference on Systems, Man, and Cybernetics* (2015), 1047–1052.
12. Lawhern, V., Slayback, D., Wu, D. & Lance, B. J. *Efficient labeling of EEG signal artifacts using active learning* in *2015 IEEE International Conference on Systems, Man, and Cybernetics* (2015), 3217–3222.
13. Marathe, A. R., Lawhern, V. J., Wu, D., Slayback, D. & Lance, B. J. Improved neural signal classification in a rapid serial visual presentation task using active learning. *IEEE Transactions on Neural Systems and Rehabilitation Engineering* **24,** 333–343 (2015).