

# CLEMENT OU

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## EXPERIENCE

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- **Sierra** San Francisco, CA  
*Software Engineer, Agent* Sep. 2025 - Present
- **Roe AI** San Mateo, CA  
*Founding Engineer* May. 2025 - Sep. 2025
  - Designed a hierarchical merchant-risk agent that retrieves live web, customer data, and proprietary datasets for risk scoring, reducing customer costs by 50% and manual review time by 30%.
  - Authored a Python SDK for the platform API, replacing legacy SQL UDFs and enabling customer/SE workflow composition, cutting solution-engineering time by 70%.
  - Built a Temporal-based orchestration framework from scratch to run branching/concurrent workflows at scale, migrating 30 production use cases and improving error handling and debugging.
  - Built an interactive browser agent and the autoscaling pool behind it, increasing success rate by 40% vs static flows.
- **Quantifind** Palo Alto, CA  
*Data Science Intern* Jan. 2025 - May. 2025
  - Standardized a reference transformer architecture and an experiment-grading rubric, then wired automated ablation and hyper-param tuning, cutting company-wide model-setup time 40%.
  - Trained a Fairseq transformer on 3 M bilingual pairs, raising precision +40 pp and recall +30 pp vs. production baseline.
  - Integrated the model into Scala batch jobs scoring 100 k docs/day and feeding downstream risk-scoring pipelines.
- **Jabil** San Jose, CA  
*Test Engineer* Sep. 2022 - Apr. 2023
  - Delivered a React + Django inventory-management portal that automated test-flow tracking and cut operator effort ~30%.

## EDUCATION

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- **Carnegie Mellon University** Pittsburgh, PA  
B.S. in Statistics and Machine Learning, Minor in Machine Learning May. 2025
  - **Relevant Coursework:** Computer Systems, Distributed Systems, Parallel Computing & Architecture, Algorithms & Data Structures, Cloud Computing, Software Engineering, Distributed ML, Deep Learning, Probability and Inference
  - **Awards:** AI Governance Best Team Project Award (Zoom AI Companion), Senior Leadership Recognition Award

## PROJECTS

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- **Poker AI Competition:** Founded and Led AI Competition Platform (\$100,000 prize pool)
  - Led team of 10+ developers and built serverless-first AWS infrastructure, scaling to 500+ users and 10,000+ daily matches.
  - Implemented full-stack platform using Remix, Postgres, and Lambda with match spectating and notifications through Websockets.
  - Engineered developer-friendly bot submission system with integrated testing and logging, improving participant experience.
- **Speech-to-Text Transformer:** (DDP · 2 × V100)
  - Implemented distributed data-parallel training from scratch in PyTorch; hit 1.2 CTC loss in 36 h.
  - Authored custom Focal-CTC loss and a progressive layer-unfreeze schedule that cut convergence epochs -35%.
- **Twitter PageRank:** Distributed Graph Processing System
  - Implemented PageRank algorithm in Scala Spark, processing graph with 1M+ vertices and 500M+ edges.
  - Optimized data movement and storage patterns, improving performance by 70% through caching and shuffle reduction.
- **GPT-2 Training Optimization:** Large Language Model Training Pipeline
  - Engineered distributed training infrastructure, achieving 0.33 HellaSwag score through automated experimentation.

## TECHNICAL SKILLS

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- **Languages:** Python, Typescript/Javascript, SQL, Java, Scala, C/C++, HTML/CSS
- **Frameworks & Libraries:** React, Next.js, Django, FastAPI, Remix, Node.js, PyTorch, Spark, CrewAI
- **Tools & Platforms:** AWS, Docker, Kubernetes, Terraform, GCP, Linux, Databricks, Hadoop, PostgreSQL