Ahmed Tarek (aka Tokyo)

Senior Software Engineer

Work authorization: EU Citizen (No sponsorship required)

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# Summary

Senior software engineer with over 7 years of industry experience, including 4 years in leadership positions, preceded by academic research. I specialize in fullstack architecture and development using React, Node.js, and Python. I excel at building complex systems across various domains, including Social Networking, Financial Technology, and Digital Health, utilizing advanced techniques in Graph Databases, Recommendation Systems, Machine Learning and Generative AI.

# Work Experience

CTO

[Plural.com](https://plural.com/)

Apr 2022 – Present

Palo Alto, CA

* Set the company’s technical roadmap:
	+ Partnered with Product to create a corporate-grade development pipeline, from ideation to launch, ensuring clarity, timely delivery, and smooth rollouts.
	+ Architected and led the development of a React/React Native design library, accelerating rollouts by 40%, unifying UI/UX and boosting code reusability.
	+ Introduced Storybook and Chromatic to align Product, Design, and Engineering with 1:1 mapping between products specs, design files, and code.
	+ Introduced end-to-end tests with Cypress and Detox, eliminating bugs in critical user journeys.
	+ Introduced enterprise-grade DevOps infrastructure:
		- Led migration from AWS Elastic Beanstalk to EKS (Elastic Kubernetes Service) with Infrastructure as Code (IaC) via CloudFormation, achieving 99% uptime.
		- Automated releases via CI/CD (Continuous Integration & Deployment) pipelines integrated with git flows and EKS, reducing push-to-deploy time by 25%.
		- Introduced secure access management with GitHub SSO and Vault, ensuring full oversight of roles, secrets, and deployments.
		- Cut CI/CD costs by 90% by migrating CircleCI to GitHub Actions and integrating self hosted UbiCloud runners, automated with Agentic AI.
		- Migrated all environments to utilize ARM architecture processors on AWS Graviton reserved instances, reducing infrastructure costs by 44%.
	+ Built a real-time event messaging system using GraphQL subscriptions, standardizing real-time features and reducing delivery unreliability to <0.2%.
	+ Implemented Mixpanel-based analytics, yielding key user journey insights and contributing to a 15% increase in job listings.
	+ Added multi-currency international payments and payouts using Stripe Custom, with robust test and webhook coverage.
	+ Introduced fraud detection with Neo4J, APOC, and Stripe, cutting disputes by 80%, and automated dispute handling reducing admin time by 30%.
	+ Led migration from CreateReactApp to Next.js 20% faster with GenAI, boosting load speed by 30%, and SEO, and reducing code duplication by 10%.
	+ Introduced GraphQL Relay Hooks with React’s Suspense API moving 40% of the queries to the server optimizing page load speed by 20%.
* Drove the company’s AI strategy:
	+ Oversaw the development of a self-improving recommendations system for skill and job titles, integrating traditional algorithms, machine learning, and generative AI. The AI component autonomously cross-references new inputs with existing data to validate and integrate it, with an optional human-in-the-loop override for oversight, achieving a 95% reduction in job title duplicates and spelling variations, and eliminated over 99% of invalid job titles:
		- Researched top ML/AI papers in the HR field and developed a novel approach to job title contextualization, boosting competitive edge.
		- Built multiple prototypes based on the ESCO dataset, utilizing BERT, RoBERTa, and neural networks to create scalable, AI-driven solutions.
		- Used ML classification algorithms to refine 33K job titles to 11K, minimizing noise and balancing data for model training and GenAI context.
		- Implemented a system of AI Agents to clean and enrich the dataset. Used prompt engineering and tool calls to generate synthetic content, such as deducing job-specific details (e.g., remote work capability); resulting in a robust, scalable dataset that met current needs and laid the groundwork for future AI-driven solutions. Inventory management automation eliminated the need for an extra department of technical clerks.
		- Introduced EVALs for AI agents, reducing LLM hallucinations by 90% and ensuring adherence to ethical guidelines and compliance standards.
	+ Replaced traditional text search with AI-powered natural language search, boosting search-to-click (30%), daily searches (30%), and hires (20%).
	+ Built smart lead generation with simulated LLM search and personalized invitations, achieving 14% conversion and 250% daily sign-up growth.
	+ Boosted engineering team’s development speed by 20% while maintaining high-quality standards by introducting AI tools, e.g. Copilot and Cursor.
* Scaled the engineering team from 3 to 8 members across frontend, backend, and DevOps:
	+ Collaborated with HR to structure and optimize the engineering hiring pipeline; and trained a team member to independently lead technical interviews.
	+ Designed and led quarterly performance reviews, aligning individual growth paths with strategic company goals.
	+ Mentored 7 engineers (5 frontend, 2 backend) into proficient fullstack developers, fostering a culture of continuous learning and skill expansion.
	+ Cut onboarding from 8 to 2 days (with day-one deployments) via structured knowledge transfer, code documentation, and cross-team collaboration.
	+ Served as the CEO’s technical right hand, translating his high-level vision into actionable engineering roadmaps and priorities.
* Oversaw the evolution from MVP to a mature, scalable multi-product ecosystem:
	+ Directed the company through an angel round and pre-seed funding, securing financial resources for the next phase of growth.
	+ Built and managed a budgeting model for the engineering department, enabling swift cost-cutting decisions and reducing engineering costs by 34%.
	+ Led the implementation of the OKR framework, driving focus to key initiatives, and enhancing transparency with leadership and investors.
* Led cross-functional teams across Engineering, Product, and Design, collaborating with key departments to deliver strategic business outcomes:
	+ Collaborated with CEO on board/investor communications and delivered quarterly and annual reports of OKR, product roadmap, and strategic insights.
	+ Collaborated with the CEO and Marketing to develop go-to-market strategies, and drive growth through a company blog and advanced SEO.
	+ Partnered with Customer Success to streamline support using Intercom and Fin AI, automating 70% of the workload.

Technical Lead

[Plural.com](https://plural.com/)

Mar 2020 – Mar 2022

Palo Alto, CA

* Developed and launched the company’s MVP, acquiring 2,000+ users and 800+ skills in 8 countries within the first release cycle:
	+ Built the promotional landing page in React, resulting in more than 20k signups to the waitlist.
	+ Built the backend application using NodeJS, Express, PostgresSQL and Relay GraphQL API, as a service based monolith ready for microservicing.
	+ Developed and published the mobile apps using React Native and GraphQL for both iOS and Android.
	+ Built the web aplication and the admin dashboard using React, GraphQL and Redux.
* Spearheaded technical improvements that significantly enhanced system efficiency and performance and streamlining development processis:
	+ Pioneered the CI/CD pipeline in CircleCI, automating all deployments based on git version control, reducing deployment time by 40%.
	+ Achieved 80% backend test coverage using Mocha and Supertest resulting in a 30% drop in bugs.
	+ Reduced regression bugs by 50% by introducing sandboxed ad-hoc builds using Fastlane and web builds using Netlify’s Preview API.
	+ Architected and implemented an internal suite of tools to integrate Jira, Git, and CI/CD, reducing development time on administrative tasks by 70%.
	+ Conducted stress testing of backend systems to ensure system reliability under high load conditions.
	+ Automated iOS code provisioning with Fastlane, eliminating manual effort and significantly boosting engineering efficiency.
* Led the development of the search and recommendation engine, increasing search/click rates by 50% and query matching by 30%:
	+ Built an Elasticsearch API, improving search and fuzzy matching. Used scoring and indexing techniques to balance relevance and ensure 99% uptime.
	+ Achieved precise job and up-skilling recommendations with SkillGraph, a graph of skills, professionals and their networks, using Neo4j, APOC and ML.
	+ Improved semantic recommendation results using BERT for contextual understanding of job titles and descriptions.
* Developed a cross-platform centralized notifications system using RabbitMQ, Sengrid, Twillio and One Signal improving user retention by 20%.
* Architected and led the development of the Messenger with GraphQL subscriptions, driving users to shift conversations from external platforms to the app.
* Led a team of designers and engineers, prioritizing delivery while evolving both the product and the tech stack from the ground up:
	+ Introduced Agile SDLC using Jira, implementing sprint planning and reports improving organization, team productivity and delivery speed.
	+ Provided technical support and mentorship, fostering a collaborative culture leading to the promotion of a teammate to Tech Lead and myself to CTO.

Lead Software Engineer

Relax International

Jul 2019 – Feb 2020

Amsterdam, Netherlands

* Implemented an Identity Provider using SailsJS, OAuth 2.0 and OIDC, enabling secure authentication and authorization across the organization’s applications.
* Architected and developed a centralized translation management system using SailsJS and i18n, supporting over 30 languages across all company apps.
* Built and maintained three fullstack web applications using SailsJS, delivering both frontend interfaces and backend APIs in a unified MVC architecture.
* Planned and diagrammed ERDs for the aforementioned software platforms optimizing data structure and flow in both the application and the database levels.
* Architected and worked with my team to develop an API for real-time hotel-information search and booking across multiple providers.

Lead Software Engineer

Dreidev

Oct 2018 – Jun 2019

Berlin, Germany

* Led the development of 3 web applications from concept to launch, managing 3 engineers and 2 designers to deliver maintainable products on schedule.
* Maintained and enhanced existing web applications, ensuring timely feature rollouts that drove client retention and generated new leads through client referrals.
* Mentored 4 engineering interns, balancing their growth with business priorities. Two were promoted to full-time roles as a result of their progress.
* Introduced frontend unit testing with Jest, establishing an 85% code coverage baseline that significantly accelerated debugging and release cycles.

Software Engineer

Dreidev

May 2017 – Sep 2018

Berlin, Germany

* Delivered scalable APIs and data workflows using Test-Driven Development (TDD) in 5 web applications (AngularJS and ReactJS with Django/Python).
* Built a code generator to standardize project scaffolding, reducing setup time (20%), improving codebase consistency, and increasing client capacity (25%).
* Implemented a CI-based deployment pipeline, standardizing releases and enhancing engineering team’s productivity by reducing deployment time by 60%.

Software Engineer

KodingLab

Feb 2017 – April 2017

Silver Spring, MD

* Contributed to the development of a full-stack collaborative coding web application using MeteorJS success.
* Built an interactive front end powered by WebSockets, enabling real-time collaboration between engineers.
* Introduced and implemented eslint-config-skycode, eliminating JS code inconsistencies across the team and unifying code style.
* The platform was adopted by leading universities, including the German University in Cairo, to support computer science education.

Research Assistant

HCI Lab - [University of Passau](https://www.fim.uni-passau.de/en/embedded-systems/)

Apr 2017 – Jun 2017

Passau, Germany

* Contributed to the research of Human-Computer Interaction (HCI) projects focused on integrating biofeedback technologies into real-world applications.
* Led the development of a state-of-the-art remote biofeedback system using wearable devices, enabling patient monitoring outside clinical environments.
* Partnered with Passau’s top healthcare provider to replace traditional, in-house biofeedback systems with a more accurate, affordable, and portable solution.
* Recognized by the Department Chair, published an academic paper with IEEE, and received a recommendation that led to my acceptance into the TUM MSc program.

Teaching Assistant (Junior)

[German University in Cairo](https://www.guc.edu.eg/)

Feb 2015 – Feb 2017

Cairo, Egypt

* Instructed Computer Science and Bioengineering students in Data Structures and Algorithms, and Game Development in Java and Python.
* Developed teaching materials and guided students through practical applications to reinforce theoretical understanding.
* Assessed and graded assignments, providing detailed feedback to support academic progress.
* Contributed to an increase in student satisfaction from 40% to 85% over the course of the semester through enhanced instruction and engagement.

# Open Source

* [apple-signin-auth](https://github.com/a-tokyo/apple-signin-auth): Authored the go-to Apple authentication Node.js library, with 3M+ downloads and adoption in 400+ open source projects.
* [react-apple-signin-auth](https://github.com/a-tokyo/react-apple-signin-auth): Authored the number one library for integrating Apple Sign-In in JS frontends, with 2M+ downloads and adoption in 500+ projects.
* [react-native-stripe-checkout-webview](https://github.com/a-tokyo/react-native-stripe-checkout-webview): First-ever standard RN integration for Stripe payments. Contacted by Stripe to advise on the architecture of the official SDK.
* [stylelint-rem-over-px](https://github.com/a-tokyo/stylelint-rem-over-px): Community standard plugin that converts px to rem, reducing CSS migration time from days to seconds and eliminating errors.
* [ai-zero-shot-classifier](https://github.com/a-tokyo/ai-zero-shot-classifier): Zero-shot classification tool combining Word2Vec and OpenAI embedding API to classify unstructured data with no labeled examples.

# Publications

[Biofeedback in the Wild – A Smartwatch Approach](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=Gcgz-XoAAAAJ&citation_for_view=Gcgz-XoAAAAJ:u5HHmVD_uO8C)

[IEE](https://ieeexplore.ieee.org/author/37086473323) • University of Passau

2018

[Athens, Greece](https://ieeexplore.ieee.org/xpl/conhome/8454955/proceeding/)

# Education

B.E. Thesis – Visiting Researcher

University of Passau

Grade: 1.0 Excellent – Top of Class

2017

Passau, Germany

BSc in Computer Science and Engineering

German University in Cairo

GPA: 1.36 | Grade: Excellent with Honors | Activities: ACM International Collegiate Programming Contest, TiQ Debate club.

Sep 2013 – Jun 2018

Cairo, Egypt

# Key Technologies

* Programming / Scripting Languages: Javascript, Typescript, NodeJS, Python, Bash, Java, C++, Haskell
* Frontend Frameworks and Tools: React, React Native, NextJS, Vite, Svelte, NuxtJS, Gatsby, Webpack, Rollup, Tailwind, Framer
* Backend Frameworks: Express, SailsJS, Django
* Databases / Datastores: SQL, MongoDB, Neo4j, PineCone, Qdrant / ElasticSearch, Redis
* Message Brokers: RabbitMQ, Kafka
* Containerization: Docker, Kubernetes
* Cloud Providers: AWS, Vercel, Netlify
* CI/CD: Github Actions, CircleCI, Jenkins, TravisCI, ArgoCD
* API Standards: GraphQL (Relay/Apollo), REST, JSON:API
* Observability: Kibana, Grafana, DataDog
* IaC: AWS CloudFormation, Terraform
* GenAI: BERT, OpenAI API / GPT, Gemini, Sonnet/Claude, FluxAI, MCP, SWARM, A2A, RAG, LangChain, Agentic Workflows, n8n
* NLP Techniques: Tokenization, Word Embeddings, Attention Mechanisms
* Machine Learning: TensorFlow, PyTorch, Hugging Face Transformers

# Languages

* English: Fluent - Portuguese: B1 - German: A2 - Arabic: Fluent - Spanish: A1 - French: A1- Japanese: A1