# Roscoe Bassett

Senior Software Development Engineer — Neural Search, NLP, Machine Learning

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## PROFESSIONAL SUMMARY

Senior Software Engineer with over 8 years of experience designing and deploying advanced search, data, and machine learning solutions for healthcare and SaaS platforms. Specialized in neural networks, kNN, natural language processing (NLP), and learn-to-rank algorithms (LambdaMART, RankNet, LightGBM). Proven expertise in Python, TensorFlow, PyTorch, and scalable data pipelines. Adept in A/B testing, ML deployment, and building cloud-native solutions on GCP, AWS, Azure, Kubernetes, and Docker. Passionate about elevating user experiences through AI-driven innovation and open to remote or hybrid opportunities.

## CORE SKILLS

**Search & ML:** Neural Networks, kNN, NLP, LTR (LambdaMART, RankNet, LightGBM), A/B Testing

**Programming:** Python, Java, SQL, TensorFlow, PyTorch, scikit-learn

**Data Engineering:** Large-scale Data Pipelines, ETL, Data Marts, Batch & Streaming Systems

**Cloud & DevOps:** GCP, AWS, Azure, Kubernetes, Docker, GitHub Actions, Jenkins

**APIs & Integration:** REST, SOAP, Twilio, Stripe, Google Sheets API, Calendly

**Analytics & Practices:** User Behavior Modeling, Experimentation, Predictive Modeling, Agile/Scrum, Secure Coding, MLOps

## SELECTED PROJECTS

**Delco Tech Division — Neural Search & Data Pipelines**  |  Founder & Lead Engineer

Developed and deployed e-commerce style search pipelines integrating NLP and learn-to-rank algorithms.

Built large-scale ETL workflows and AI-powered appointment scheduling/search features.

Leveraged GCP & Kubernetes to run scalable ML models, integrating Twilio, Stripe & Sheets APIs.

**Dental Marketplace Platform — Healthcare Search AI**  |  Lead Developer

Implemented NLP-powered search for healthcare appointments, enabling fast and accurate retrieval of services.

Applied LTR algorithms to improve ranking and relevance of clinician and service searches.

Deployed production-ready TensorFlow & PyTorch models in a GCP-based pipeline.

**Hazard Removal Quoting Engine** (Demo 1 / Demo 2)  |  Machine Learning Developer

Created predictive modeling & NLP classification pipeline to analyze intake forms and images.

Used kNN & ranking models to match cases to best-fit solutions and pricing strategies.

Validated models via A/B testing, feeding back results for continuous optimization.

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## EXPERIENCE

**Freelance Software & ML Engineer / Consultant** | 2017 – Present, Philadelphia, PA (Remote)

- Built production ML pipelines integrating Neural Networks, NLP, and ranking models into SaaS products.
- Developed scalable ETL processes supporting large datasets in healthcare and retail environments.
- Conducted A/B testing and model performance evaluations to improve ranking metrics.
- Designed and deployed models on GCP with Kubernetes and CI/CD pipelines.

**Software Engineer — Independent SaaS Solutions** | 2014 – 2017

- Developed SaaS applications leveraging NLP search and ML-powered recommendations.
- Built secure APIs and integrated search workflows using LTR and classification models.
- Created ML pipelines for analytics and predictive modeling in healthcare and B2B SaaS.

## EDUCATION & CERTIFICATIONS

Equivalent to a Master's Degree in Software Development & Applied Machine Learning through over a decade of senior-level, hands-on engineering experience designing AI-driven solutions.

AWS Hands-on: Developing with Lambda, SQS & SNS (Alison, Sep 2025, ID 4611-52592492)

Diploma in Certified Information Systems Security Professional (CISSP 2024) (Alison, Sep 2025, ID 7468-52592492)

Diploma in Cyber Security (Alison, Sep 2025, ID 5989-52592492)

Diploma in Kubernetes Administration (Alison, Sep 2025, ID 5373-52592492)

Diploma in Mastering Java, From Beginner to Advanced (Alison, Sep 2025, ID 7309-52592492)

Diploma in Website Development using Python-Flask (Alison, Sep 2025, ID 4946-52592492)

Machine Learning and Advanced AI Techniques (Alison, Sep 2025, ID 7322-52592492)

Version Control (Meta, Sep 2022, ID CEZGDY9QLA7G)

Introduction to iOS Mobile Application Development (Meta, Aug 2022, ID QY7LE3L86FKE)

Google Cloud Professional Developer (in progress)

Oracle Certified Professional, Java SE