Mert Bildirici

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Education

Duke University – *B.S. Computer Science, AI & ML Concentration* May 2025

- **GPA:** 3.96/4.00
- **Coursework:** Data Structures & Algorithms, Computer Systems, Database Systems, Advanced Algorithms, Topological Data Analysis, Bayesian Statistics, Probability, Machine Learning, Multivariable Calculus, Linear Algebra, Computer Vision
- **Extracurriculars:** Statistics Teaching Assistant, Energy and Climate Club, Wayne Manor, Turkish Student Association

Experience

Software Engineer – *Tanium* June 2025 - Present

- Built a backend service to generate a table of module releases that failed autopromotion through deployment rings.
- Led development of an internal CLI tool that standardized AI tooling and commands across the engineering organisation.
- Built the Toolset Manifest page to track 40+ tool versions across endpoints, improving version and release visibility.
- Designed URL-based filter persistence using query and search parameters, allowing stateless navigation sharing filtered views.

Software Engineering Intern – *Tanium* May 2024 - August 2024

- Developed a Kubernetes operator in Go to automate upgrades in cloud, reducing manual intervention by 80% for 230+ services.
- Integrated the operator into CI/CD pipelines, improving workflows by 40% and reducing deployment errors by 25%.
- Used CRDs to manage custom resources, enhancing operator's ability to handle complex configurations and extend functionality.

Software Engineer – *Duke University* August 2023 - April 2024

- Built an app for Duke professors to post quizzes online, engaging 500+ active users (Java for Android, Swift for iOS).
- Implemented real-time notifications on Android and iOS by utilizing Firebase Cloud Messaging (FCM) topic messaging.
- Developed a Java server with Spring Boot, handling network requests and reducing notification delivery time via FCM by 20%.

Software Engineering Intern – *Valensas* May 2023 - August 2023

- Created a React web app enabling purchases and expenses with pre-authorized payments in low-connectivity areas such as flights.
- Built a panel with React Admin, allowing for efficient management and monitoring of transactions and provisions.
- Leveraged Postman API for retrieving transaction data and managing provisions, reducing data retrieval time by 30%.

Software Engineering Intern – *Recly* May 2022 - August 2022

- Developed solutions for critical bugs in Recly, a workout partner connection app written in React.
- Enhanced the Chat section by notifications and improved message synchronization with ReactNative.
- Cut build times from 5 minutes to 20 seconds and boosted productivity by 30% by leading backend environment overhaul.

Research & Projects

Tech Lead – *Students Who Sit* August 2024 - January 2025

- Built an iOS app using Swift for over 120 sitters and 180 parents, streamlining childcare matching processes at Duke University.
- Reduced sitter matching time by 30% through the implementation of an automated request-handling system.
- Utilized RESTful APIs to connect backend services and sync user data, improving data retrieval speeds by 20%.

ML Research Assistant – *Duke University* April 2024 - August 2024

- Conducted research on novel Protein Language Model (PLM) architectures under Dr. Naderi-Alizadeh.
- Combined protein sequence and structure data, creating models that improved predictive performance by 20%.
- Leveraged PyTorch to build neural networks, implementing deep learning and achieving a 15% increase in model accuracy.

Technical Skills

Languages: Python, Java, Go, JavaScript, TypeScript, C++, C, SQL, Kotlin, Swift, R, HTML, CSS
Tools: Kubernetes, Docker, AWS, Azure, GCP, GitHub actions, Node.js, Grafana, Bazel, Flask, Terraform, JUnit, GraphQL
Libraries: React, PyTorch, TensorFlow, pandas, NumPy, Sklearn, Matplotlib, Selenium, knex, ggplot, dplyr