

RIZA KORKUSUZ

Technical Support Engineer Candidate Portfolio

Structured technical support. Clear customer communication. Engineering discipline for connected energy systems.

Prepared for	Nader Yarpezeshtkan, Founder & CEO
Company	Next Wave Energy Monitoring
Target role	Technical Support Engineer
Candidate	Riza Korkusuz - San Diego, California
Work authorization	U.S. permanent resident (green card holder)

Why NextWave

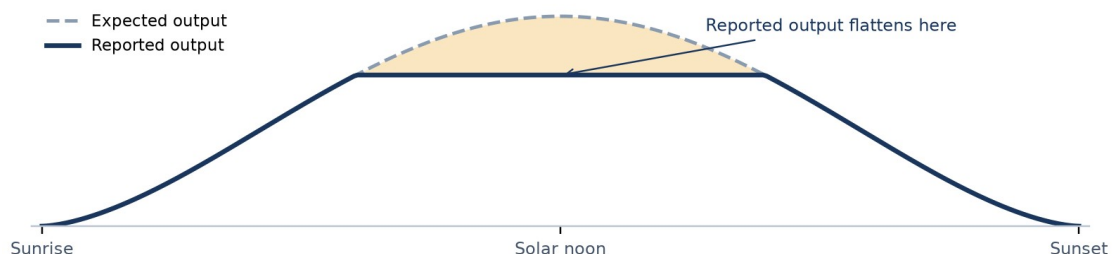
Hello Nader,

NextWave stands out to me because it treats energy monitoring as both an engineering responsibility and a customer commitment. PVPulse and TotalPulse connect software, data, communications, and field hardware, while NextWave emphasizes responsive, knowledgeable human support.

My background is in Tier 1 and Tier 2 support, TCP/IP and network troubleshooting, hardware and software diagnostics, ticket ownership, technical documentation, user guidance, and security-aware support. With an MS in Computer Engineering and CompTIA Security+, I bring the foundation and learning discipline to grow into NextWave's solar-monitoring environment.

I can contribute immediately in customer communication, case ownership, network diagnostics, documentation, escalation, and cross-team coordination. Through NextWave's training, I would build deeper capability in PVPulse, TotalPulse, PV performance, electrical metering, DAS hardware, Modbus, RS-485, cellular communications, data mapping, and reporting.

OWN THE CASE	TRANSLATE TECHNICAL DETAIL	LEARN THE COMPLETE SYSTEM
Move each issue from clear intake through investigation, escalation, verification, and closure.	Give customers understandable updates and internal teams actionable diagnostic evidence.	Build product and domain knowledge across platform, data, communications, and connected hardware.



This is the kind of question I want to spend my days on: does the data match what the system should be producing, and if not, which layer explains the gap? (Illustrative curve, not customer data.)

San Diego, California | +1 (619) 776-1907 | rizakorkusuz@gmail.com | [linkedin.com/in/rizakorkusuz](https://www.linkedin.com/in/rizakorkusuz) | [Google Scholar](https://scholar.google.com/citations?user=...)

ROLE ALIGNMENT

A strong support foundation for NextWave's environment

The table separates capabilities I can apply immediately from product and domain knowledge I would build through NextWave's training and supervised cases.

What NextWave needs	Relevant foundation I bring	NextWave-specific development
Customer and field-service support	Onsite, phone, walk-up, and remote support; user training and technical guidance.	Learn PVPulse and TotalPulse customer and field-service workflows.
Case ownership and triage	Incident logging, tracking, troubleshooting notes, SLA-aware escalation, and complete issue histories.	Apply NextWave's urgency, customer-impact, and escalation standards.
Communications troubleshooting	LAN, TCP/IP, DNS, DHCP, Wi-Fi, and VPN diagnostics with ping, ipconfig, traceroute, and nslookup.	Develop depth in cellular, RS-485, Modbus, and device-to-DAS communications.
Equipment diagnostics	Installation, configuration, repair, and preventive maintenance for endpoints, peripherals, and mobile devices; robotics and IoT builds.	Apply the same disciplined method to dataloggers, meters, inverters, trackers, and weather stations using approved procedures.
Platform and reporting support	MS thesis and published paper built on about 30,000 labeled records; Python and C# scripting; detailed incident, asset, and troubleshooting documentation.	Learn renewable-energy data validation, mappings, calculations, schedules, and platform-verification workflows.
Cross-functional resolution	Vendor coordination, structured escalation, troubleshooting guides, user training, Active Directory, and Security+.	Collaborate with Customer Success, Engineering, Product, Development, field personnel, and equipment vendors.

Verified technical foundation

• MS (thesis) and BS in Computer Engineering, Trakya University	• BS in Computer Science Education, Marmara University
• Degrees evaluated as U.S. equivalent by ECE (2026)	• CompTIA Security+ CE
• Python Institute PCAP: Programming Essentials in Python	• NVIDIA DLI: Fundamentals of Deep Learning for Computer Vision
• Cisco Networking Academy: Introduction to Cybersecurity	• Windows 10/11 and foundational macOS
• Microsoft 365 and Active Directory	• LAN, TCP/IP, Wi-Fi, and VPN diagnostics
• Endpoint, peripheral, and mobile support	• Documentation, training, and vendor coordination
• Vocational and Technical Anatolian High School, Computer Hardware program	• Bilkent University: autonomous driving and robotics simulation training

Transparent learning agenda

CURRENT STRENGTHS AND NEXTWAVE-SPECIFIC GROWTH My direct experience is in IT support, endpoints, networks, accounts, security, and technical documentation. I do not present solar operations, Modbus, RS-485, electrical metering, DAS, or REC reporting as prior professional experience. My engineering background does give me the foundation underneath them: I read circuit diagrams, understand how the components and infrastructure work, and learn structured systems quickly. I would build competency through formal training, documented procedures, shadowing, supervised cases, and careful verification rather than assumption or guesswork.

Immediate value: disciplined troubleshooting, TCP/IP diagnostics, clear customer communication, escalation-ready documentation, and an engineering-based learning approach.

Energy fundamentals I am actively building

POWER AND ENERGY kW versus kWh, the DC and AC sides of a PV system, inverter conversion, and how meters and current transformers measure production.	PV PERFORMANCE Irradiance, temperature and weather effects, expected production, clipping, curtailment, and the common causes of production loss.	FIELD COMMUNICATIONS Modbus registers, RS-485 wiring, datalogger polling, and cellular links, building on my existing TCP/IP troubleshooting practice.
---	--	---

Road Angels autonomous mobile robot | 2nd place, OpenZeka MARC 2019

A competition-ready ground-robot platform combining a rugged wheeled chassis, onboard electronics, sensing hardware, communications, and computer-side setup. The work demonstrates disciplined integration and live-system troubleshooting in an event environment.



Computer-side setup beside the Road Angels platform at OpenZeka MARC 2019 in Edirne.

What the project demonstrates

SYSTEM INTEGRATION

Mobile chassis, onboard compute and electronics, a forward sensor array, antennas, and a workstation-based test setup.

BUILD-TEST-DEBUG

Bench setup, connectivity checks, sensor and software verification, fault isolation, and event-readiness testing.

NEXTWAVE RELEVANCE

The same evidence-first mindset applies when connected hardware, communications, software, and field conditions meet.

Competition context



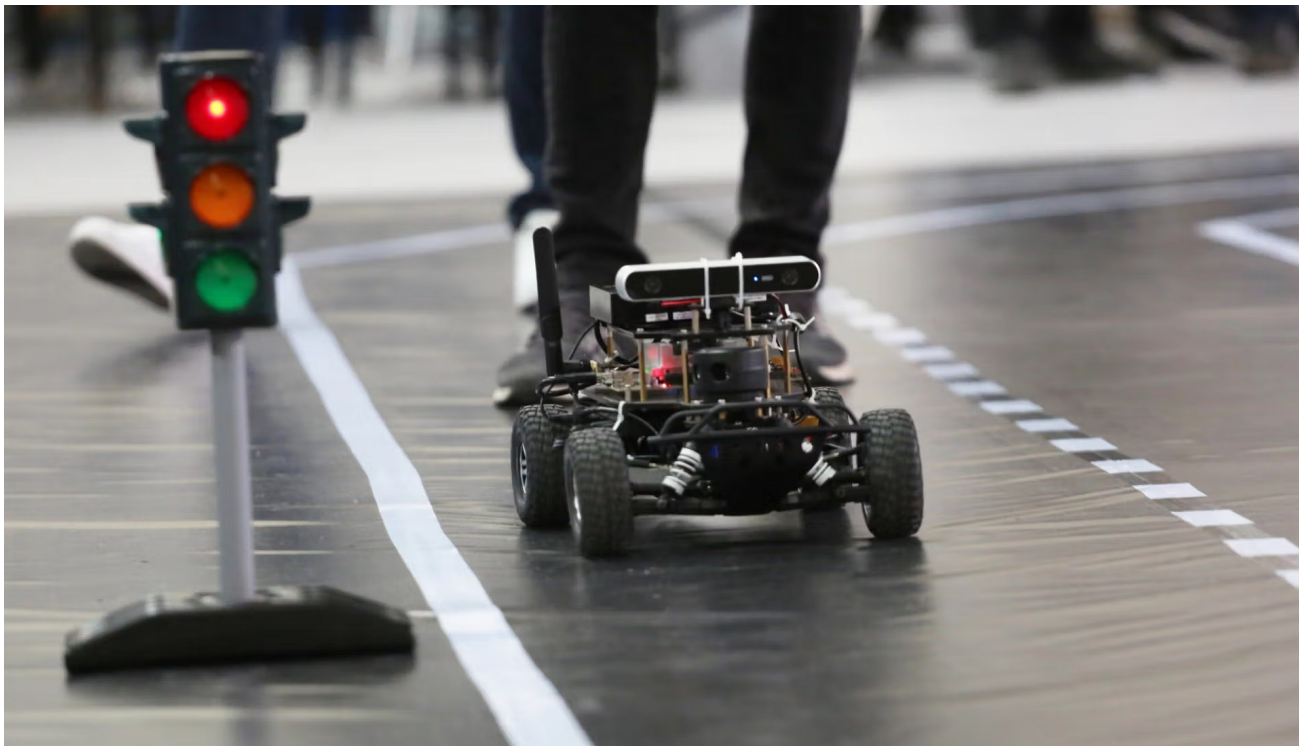
Team with the Road Angels car at OpenZeka MARC.



Bench testing at the team workstation before the run.

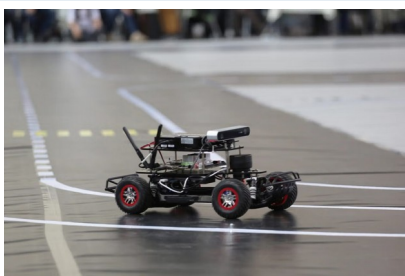
Road Angels on the competition track

At OpenZeka MARC 2019, autonomous cars had to run a marked course with lane lines, intersections, traffic lights, and parking areas using onboard cameras and compute. Road Angels finished in second place. The room-scale practice course shown below has the same kinds of road features. Getting a live system to behave reliably in that setting took the same habits support work needs: careful setup, observation, isolating the cause, and retesting.



Autonomous run at a traffic-light checkpoint on the OpenZeka MARC 2019 track.

On the course and in the arena



Lane following on the competition course.



The team above the competition arena at OpenZeka MARC.



Room-scale practice course with lanes, a crosswalk, and parking bays.

Recognition and related training

COMPETITION RESULTS

Second place with Road Angels at OpenZeka MARC 2019 (mini autonomous driving). Fourth place in a line follower robot competition.

TRAINING

Hands-on autonomous driving and robotics simulation training at Bilkent University.

JUDGING

Referee at Teknofest Aerospace and Technology Festival competitions, Turkey's national technology festival.

Custom tethered underwater ROV

A hands-on underwater robotics project integrating mechanical structure, sealed electronics, a camera/vision enclosure, multiple shrouded thrusters, cabling, and a tether into a system that could be validated in a real pool environment. The ROV was built for the Teknofest Unmanned Underwater Systems competition.



Pool validation brought the full system into its intended operating environment.

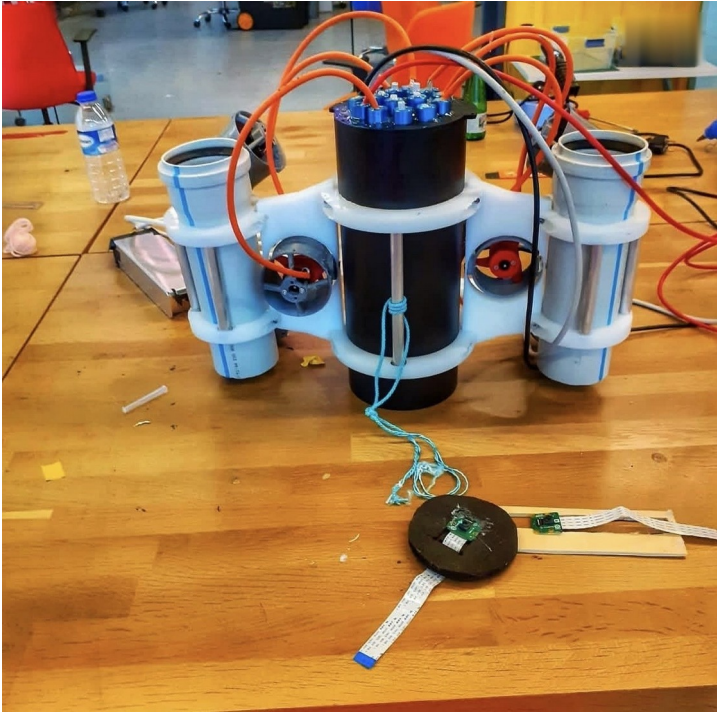


Late-stage bench assembly with camera dome and multi-directional propulsion.

Engineering workflow visible in the project

1 INTEGRATE Combine propulsion, electronics, vision, frame, buoyancy elements, power, and tether connections.	2 VERIFY Inspect wiring, connectors, mechanical fit, camera positioning, and subsystem response before deployment.	3 VALIDATE Move from bench checks to pool trials, observe real behavior, capture issues, and iterate.	4 SUPPORT Explain the system clearly, isolate the failing layer, document evidence, and coordinate the next action.
---	--	---	---

Build and integration stage



Electronics, propulsion, buoyancy, cabling, and the vision subsystem during integration.

DENEYAP robotics and autonomous-systems instruction

Project-based instruction and mentorship using mobile robots, laptops, sensor-and-actuator exercises, and a room-scale road course. The work connects technical depth with patient explanation, structured testing, and team development.



Hands-on robotics instruction and live troubleshooting.



DENEYAP workshop environment with student robotics teams.

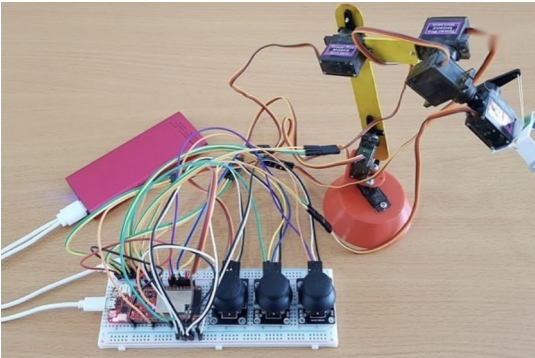


Road course for navigation, intersection, parking, and sign scenarios.

Transferable strengths

TECHNICAL COMMUNICATION Translate programming, sensors, motion, and troubleshooting into understandable steps.	SYSTEMATIC TESTING Use repeatable scenarios, observe behavior, isolate faults, adjust one variable, and retest.	TEAM ENABLEMENT Guide learners with different experience levels while keeping the work organized and outcome-focused.
--	---	---

Additional prototype



Joystick-driven multi-servo robotic arm prototype.

JOYSTICK-CONTROLLED ROBOTIC ARM

- Breadboarded microcontroller interface with three joystick inputs.
- Multi-servo joints and gripper for direct operator control.
- A compact example of wiring, actuator integration, calibration, and iterative bench testing.

Other builds and programs

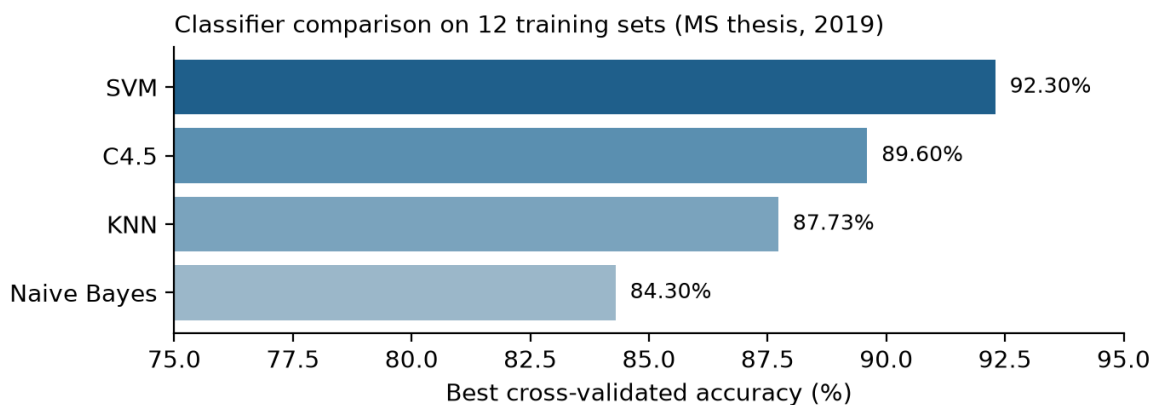
IOT AND ASSISTIVE TECHNOLOGY Smart Cradle and Smart Wheelchair projects in the Technology Development Foundation "Build Tomorrow" program, using embedded systems and sensors.	AI APPLICATIONS A computer-vision mask detection and compliance app, and IBM-supported TJBot projects for AI and cybersecurity education.	EDUCATION PROGRAMS Coordinated an Erasmus+ vocational mobility project, "Informatics for Sustainable Development!"; led EU Code Week events; taught coding to learners with autism.
--	---	---

Real-time sentiment analysis of Turkish tweets | MS thesis and published research

My Master of Science thesis in Computer Engineering at Trakya University (2019) classified Turkish tweets about football matches as positive, negative, neutral, or irrelevant. I then built an application that collected new tweets live, classified them with the best-performing models, and visualized the results in real time.

What the project demonstrates

DATA COLLECTION AND QUALITY Collected about 30,000 tweets, labeled them by hand into four classes, and re-checked the labels five times to keep errors out of the training data.	MODEL COMPARISON AND VALIDATION Built 12 training sets and compared Naive Bayes, KNN, C4.5, and SVM in Weka with cross-validation. SVM reached the best accuracy at 92.30%, and correcting about 48,000 misspelled words with the Zemberek library clearly improved results.	NEXTWAVE RELEVANCE Cleaning noisy data, comparing results with expected behavior, and validating before trusting an output are the same habits needed to catch missing, delayed, or erroneous production and metering data.
--	--	---



Published work

Korkusuz, R. and Carus, A. (2020). Real-time sentiment analysis of tweets about football matches. European Journal of Science and Technology, Special Issue, pp. 386-396. Presented at ISMSIT 2020. DOI: [10.31590/ejosat.821200](https://doi.org/10.31590/ejosat.821200). Cited 5 times on Google Scholar.

Korkusuz, R. (2019). Sentiment analysis of Twitter shares on football. MS thesis, Trakya University, Institute of Natural Sciences, Computer Engineering. Cited 3 times on Google Scholar. Full list of publications: [Google Scholar profile](#).

Engineering coursework behind the foundation

ELECTRICAL AND POWER Electric Circuits 1-2, Electronics 1-3, Power Electronics, Electrical Machines, and Measurement and Instrumentation. This maps to inverters, meters, current transformers, and reading wiring diagrams.	CONTROL AND EMBEDDED SYSTEMS Microcontrollers, Microprocessors 1-2, PLC, Control Systems, Automatic Control 1-2, Digital Control Systems 1-2, and Electro-Pneumatic Control. This maps to dataloggers, field devices, and industrial communication.	NETWORKS, DATA, AND SECURITY Computer Networks, Network Systems, Network Security (MS), Operating Systems 1-2, Database Management, and Data Structures and Algorithms. This maps to cellular and TCP/IP connectivity, platform data, and secure remote access.
--	---	---

The complete course list with U.S. credit equivalents is in the attached ECE course-by-course evaluation (March 2026).

SUPPORT OPERATING MODEL

From customer question to verified resolution

A consistent support lifecycle protects customer trust, shortens handoffs, and turns each case into reusable operational knowledge.

1. CLARIFY	Define the symptom, affected site, urgency, customer impact, scope, and last known good state.
2. COLLECT EVIDENCE	Capture timestamps, alerts, errors, screenshots, device status, recent changes, and service activity.
3. ISOLATE THE LAYER	Separate platform, data/configuration, network/communications, and field-device possibilities.
4. TEST SAFELY	Start with non-invasive checks, change one variable at a time, and follow approved runbooks.
5. COMMUNICATE	Give the customer a clear update and the responsible team a precise, evidence-based next action.
6. VERIFY RESTORATION	Confirm communications and current data have returned and the original symptom is resolved.
7. DOCUMENT AND IMPROVE	Record cause, evidence, actions, resolution, and any recurring pattern worth operationalizing.

Illustrative support scenarios

A. MISSING OR DELAYED SITE DATA <i>Illustrative approach - not a past project</i> • Confirm the site, last reliable timestamp, impact, and whether one device or the full site is affected. • Review platform status, alarms, historical behavior, and known power, service, or network changes. • Isolate platform, configuration, communications, and field-device layers; apply TCP/IP diagnostics to the connectivity path. • After NextWave training, compare cellular, DAS, device, and protocol settings with approved runbooks. • Coordinate targeted field checks, then verify current data, timestamps, values, gap handling, and customer closure.	B. DASHBOARD / REPORT DISCREPANCY <i>Illustrative approach - not a past project</i> • Capture the asset, report, date range, time zone, units, displayed values, and expected result. • Reproduce the issue and locate the point where source data, ingestion, configuration, calculation, dashboard, or report diverges. • After platform training, examine mapping, scaling, missing intervals, time-zone handling, and calculation settings. • Separate incomplete source data, configuration error, and a potential platform defect. • Escalate with timestamps, sample values, screenshots, reproduction steps, observed behavior, and expected behavior; validate the fix.
---	--

Escalation-ready handoff

CONTEXT Customer/site, impact, urgency, scope, and last known good state.	EVIDENCE Timestamps, alerts, screenshots, logs, sample values, and recent changes.	ENVIRONMENT Platform/device identifiers, network path, configuration, and relevant versions.
REPRODUCTION Exact steps, expected behavior, observed behavior, and reproducibility.	ACTIONS TAKEN Checks performed, results, changes made, rollback status, and unresolved questions.	NEXT ACTION Requested check, accountable owner, escalation question, and customer update.

CONTRIBUTION PLAN

A focused 30-60-90 day ramp

The plan is designed to add value early while building solar-monitoring and industrial-communications capability with accuracy and appropriate supervision.

DAYS 1-30 Learn the system and support standard • Complete training on PVPulse, TotalPulse, DAS hardware, device integrations, communications, reporting, and security procedures. • Map the path from field equipment through communications and data acquisition to customer-facing outputs. • Build working knowledge of kW, kWh, AC/DC, PV production, metering, irradiance, weather impacts, and data quality. • Shadow support calls, remote field interactions, reporting workflows, and escalations. • Begin handling appropriate low-risk cases with review.	DAYS 31-60 Contribute with increasing ownership • Own standard cases within an agreed scope and maintain timely customer updates. • Apply a consistent workflow to network, access, configuration, data, and platform questions. • Support field personnel remotely through approved diagnostic procedures. • Reproduce platform issues and prepare complete defect packages for cross-functional teams. • Draft or improve a knowledge-base article based on an approved recurring issue.	DAYS 61-90 Operate independently within defined scope • Manage agreed case types from intake through verified closure. • Participate in remote field support and confirm data and communications after service work. • Recognize recurring patterns and propose one practical workflow or documentation improvement. • Help validate platform corrections, reports, alarms, dashboards, or customer-facing outputs. • Create a continued learning plan for advanced communications troubleshooting and data validation.
--	---	--

How I would define early success

✓ Customers receive clear ownership and understandable updates.	✓ Tickets contain enough evidence for another team member to act efficiently.
✓ Escalations are timely, relevant, and well documented.	✓ Restored service is verified rather than assumed.
✓ Knowledge from individual cases improves future support.	✓ Product and domain capability grows without overstating current experience.

Closing statement

NextWave would gain a support professional who approaches customer ownership as a technical discipline: listen carefully, isolate methodically, communicate clearly, document completely, and verify the result.

I would welcome the opportunity to discuss how my support experience, engineering education, security foundation, and commitment to deliberate learning could contribute to the customer experience surrounding PVPulse and TotalPulse.

Riza Korkusuz | San Diego, California | +1 (619) 776-1907 | rizakorkusuz@gmail.com | [linkedin.com/in/rizakorkusuz](https://www.linkedin.com/in/rizakorkusuz) | [Google Scholar](#)

Prepared independently for employment consideration using publicly available information from [nwemon.com](https://www.nwemon.com) and the Technical Support Engineer posting.