

# MOHAMED GHAZAL

## CONTROLS ENGINEER

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### ELEVATOR PITCH

Results-driven Controls Engineer in Training with 2 years of experience delivering reliable controls systems and automation in the materials handling and industrial automation industry. Highly motivated and proven ability to adapt and take on new challenges by leading projects to a high degree of satisfaction, improving client relationships.

### SUMMARY OF QUALIFICATIONS

- Proven PLC programming and commissioning capabilities developed through working with demanding clients (Amazon, FGF Brands, Bank of Canada) to provide high quality solutions at Dematic
- Successfully designed controls cabinets in AutoCAD with high safety requirements adhering to IEC standards
- Experienced leader working under high pressure through successfully leading commissioning teams overcoming challenging deadlines and supply chain constraints, resulting in project turnover 2 weeks ahead of schedule
- Effectively collaborated with clients to improve and optimize system performance and reliability using data analysis, reducing downtime of system by up to 70%

### WORK EXPERIENCE

#### Controls EIT Dematic Inc

*Mississauga, ON, Canada*

*May 2021 - Present*

- Successfully lead integration of PLC control systems with equipment management software for inventory tracking at The Bank of Canada, completing acceptance testing with client 2 weeks ahead of schedule
- Developed and implemented commissioning subroutines and HMI macros responsible for reducing commissioning time by up to 50%
- Produced complex viz and HMI screens (FactoryTalk & Iconics) focused on UX, far exceeding client needs
- Effectively organized electricians to increase efficiency of installation phase cutting costs on installation by 15%
- Complied thorough engineering documents and procedures, increasing technicians' efficiency by 100%
- Provided prompt support to clients during critical system outages to production, ensuring minimal downtime

#### Research Assistant Carleton University

*Ottawa, ON, Canada*

*Apr 2020 – Nov 2020*

- Created PCB layouts in Altium for verification of sourced electronics components
- Modeled microstrip and CPW circuits in HFSS, ADS and LabView to simulate response before fabrication
- Calculated design constraints and analyzed raw data from tests and simulations using MATLAB
- Prepared detailed presentations and papers outlining new developments using LATEX
- Developed and presented methods for characterizing non-linear varactor and pin diodes at high frequencies

#### Residence Fellow Carleton University

*Ottawa, ON, Canada*

*Aug 2018 – May 2020*

- Mentored students implementing effective peer-mentoring strategies, resulting to a 90% success rate.
- Spearheaded team meetings with the purpose of creating a positive, engaging environment, increasing collaboration and efficiency in meetings by 100%
- Professionally mediated inter-personal conflicts resolving, achieving resolution in half the expected time

## EXTRA-CURRICULAR

### VP Fundraising

*Sept 2019 – Apr 2021*

#### Engineers without Borders

*Ottawa, ON, Canada*

- Led the fundraising team responsible for achieving the first chapter of the year award in 20 years
- Organized social events to raise funds for community development in third world countries and climate action
- Managed groups of up to 80 volunteers to ensure high level of efficiency and smooth execution of events, leading to chapter growth by 100%
- Established longevity of club by documenting important procedures and tasks for optimal event hosting, increasing funds by over 500% with record high of 30 000\$ to help entrepreneurs in Africa grow their business

### Team Captain

*Sept 2017 – Apr 2021*

#### Carleton University Varsity Fencing Team

*Ottawa, ON, Canada*

- Demonstrated quick learning ability in a fast-paced environment, achieving top 25 national rank in first year
- Defined standard in which training is conducted which lead to an increase in overall team results
- Managed a team of athletes to host competitions and events with hundreds of attendees
- Joined the ranks of OUA All-Stars, awarded in 2019 at the Ontario University Championship

### Carleton Engineering Design Competition

*Nov 2019*

#### Bronze Medal in Senior Consulting Competition

*Ottawa, ON, Canada*

- Devised a systematic waste management solution in a team of 2 other engineering students to meet tight environmental and social challenges for a town in South America
- Competed again 20 groups based on problem solving, written and presentation skills to achieve third place

## APPLIED PROJECTS

### Project Lead, Antenna Designer

*Sept 2019 – Apr 2020*

#### RADAR System Capstone Project

*Ottawa, ON, Canada*

- Developed a 2x2 microstrip patch antenna array using Ansys HFSS to maximize bandwidth and increase outcome using notches and insets achieving a gain of 10 dB and HPBW of 22 degrees
- Successfully designed a Wilkinson power divider for equal power distribution between antenna array elements
- Established a method to measure the antenna performance and characteristics to verify calculations
- Led weekly meetings to discuss progress of group members and allocate resources where needed to maintain project timeline and promptly handle unforeseen disruptions in schedule
- Professionally communicated with lab technicians and professors about progress, materials and labour requirements including proposals, parts ordering, and funding requests in detail, achieving high distinction

### Microwave Circuit Designer

*Sept 2019 – Dec 2019*

#### Bandpass Filter Project

*Ottawa, ON, Canada*

- Computed microstrip characteristics required to achieve target bandwidth and frequency in MATLAB
- Constructed microwave bandpass filter using Keysight ADS based on calculated and specified parameters
- Fabricated and tested PCB filter yielding 70% variance between simulated and measured performance

## EDUCATIONAL BACKGROUND

### Bachelor of Engineering, Carleton University

*Sept 2017 – Apr 2020*

*Electrical Engineering, focus in RF & microwave circuits*