

# Izzy Pasandi

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## RESEARCH INTERESTS

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OBJECT RECOGNITION

COMPUTER VISION

COMPUTER NETWORKS

MACHINE LEARNING

SIGNAL & IMAGE PROCESSING

DISTRIBUTED REAL-TIME PROCESSING

## EDUCATION

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### University of Ottawa

Ottawa, ON

- *Master of Applied Science (M.A.Sc.), Electrical and Computer Engineering; GPA: 4.0/4.0*      *Nov 2012 – May 2014*
  - **Thesis:** Face, Age, and Gender Recognition using Local Descriptors
  - **Supervisor:** Prof. Robert Laganière

### Sharif University of Technology

Tehran, Iran

- *Bachelor of Science (B.Sc.), Computer Engineering; GPA: 15.56/20*      *Sep 2006 – May 2011*
  - **Thesis:** Sparse Representation Techniques for Neighborhood Graph Construction in Pattern Classification
  - **Advisor:** Prof. Afshin Hemmatyar

## PUBLICATION

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- E. Fazl-Ersi, Pasandi, R. Laganiere, and M. Awad. Age and gender recognition using informative features of various types. ICIP 2014, pp. 5891–5895.

## TECHNICAL SKILLS

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- **Programming & Data Tools:** C, C++, Python, Bash, SQL/NoSQL, OpenCV, MATLAB, LIBSVM
- **Distributed Systems & Cloud:** REST APIs, Microservices, Docker, Kubernetes, Redis, Pub/Sub, GCP, Azure
- **Tools & Practices:** Git, Jenkins, Jira, Confluence, Agile development

## EXPERIENCE

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### Various Clients(Telnyx Inc., B1 Studio)

Vancouver, BC

#### *Freelance Software Engineer*

*Mar 2023 – Present*

- Reimplemented and optimized a FreeSWITCH-based real-time voice transcription module for **Telnyx**, improving concurrency performance and reducing latency under concurrent workloads.
- Diagnosed and resolved audio pipeline issues (buffer overflows, memory leaks) for **Telnyx**, enhancing reliability in high-volume distributed call environments.
- Built automation and tooling to streamline operational workflows for client support at **B1 studio**, streamlining internal operations.

### Dialpad

Vancouver, BC

#### *Senior Software Engineer I*

*Aug 2021 – Feb 2023*

- Maintained and enhanced real-time comms microservices (Plivo, FreeSWITCH) in C/C++ and Python.
- Designed and implemented a pub/sub-based call-quality monitoring system enabling live feedback across distributed services.
- Debugged network signalling and RTP media pipelines to ensure low-latency and fault-tolerant operation.
- Participated in the migration of legacy Python 2.7 systems to version 3.5 as part of a collaborative team, while enhancing unit testing coverage.
- Supported customers by investigating GCP production issues, performing distributed debugging across Pub/Sub pipelines, Bigtable storage layers, and Cloud Functions execution paths.

- **Ciena Corporation** Ottawa, ON  
*Embedded Software Engineer II* Jun 2015 – Jun 2021
  - Developed signal-loss diagnostics microservice in C++, improving diagnostic accuracy and reducing troubleshooting time.
  - Implemented automated topology discovery for large-scale submarine FlexGrid networks.
  - Enhanced reliability and fault-detection modules for carrier-grade transport products.
  - Used Bash and Python scripting extensively for automation, observability, deployment tooling, and performance monitoring.
- **ADitude Media Corporation** Ottawa, ON  
*Software Engineer* Sep 2014 – Jun 2015
  - Integrated a set of Ad networks with proprietary computer vision software for targeted media delivery.
  - Optimized image-processing pipelines for real-time face detection and recognition in production environments.
- **VIVA Lab, University of Ottawa** Ottawa, ON  
*Research Assistant* Nov 2012 – Jul 2014
  - Designed and implemented a real-time facial analysis application capable of high-accuracy age & gender estimation.
  - Applied machine learning and local descriptor-based methods for face analysis under constrained compute resources.
  - Conducted experimental evaluation, feature extraction, and performance optimization for real-time vision algorithms.

## TEACHING ASSISTANT

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- **Sharif University of Technology:**

- Electrical Circuits Fall 2008, Spring 2009
- Introduction to Programming Fall 2008
- Signals & Systems Spring 2010
- Linear Control Systems Spring 2010
- Probability & Statistics Fall 2010

## VOLUNTEER & COMMUNITY ENGAGEMENT

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- Co-facilitated a local peer support group at Qmunity, contributing to inclusive community wellbeing and providing weekly guidance to participants.
- Volunteer contributor at a local community spirit fair (2023–present), supporting event operations and outreach.
- Led guided sea-kayaking tours at Jericho Kayaking Centre, ensuring group safety, navigation, and positive participant experiences.
- Certified Level 3 Sea Kayaker, demonstrating advanced skills, safety training, and outdoor leadership.