

Pinku Deb Nath

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PROFESSIONAL EXPERIENCE

Amazon Web Services / Software Development Engineer

May 2022 - September 2023, Vancouver, British Columbia, Canada

- As a core member of Application AutoScaling, I have gained extensive knowledge in service-oriented architectures and cloud infrastructures.
- Autoscaling is an important feature for reducing costs and I have worked on integrating auto scaling with popular AWS products such as EC2, DynamoDB, Lambda, CloudWatch, CloudFormation, CDK, SageMaker, ECS, EMR and ElasticCache during expansion to new regions.
- I have owned projects end to end by making design plans reviewed by my team, task breakdown, security approvals, implementing the updates, deploying world wide, and implementing validation and load tests.
- I designed and implemented an improved throttling process by setting up rules for groups that accounts can join to get higher throttling rates. The upgrade expedited new region builds by one week as other teams can independently join groups with higher limits without requiring manual update from our team.
- I collaborated on enabling custom math expressions that combine more than one metrics for setting up auto scaling configurations.
- I am experienced in operations as I have on-call experience tackling multiple critical team-wide and a number of organization wide severities.
- Technologies: Java, Python, Ruby, Typescript, Application AutoScaling, DynamoDB, Lambda, EC2, CloudWatch, SageMaker.

Pathao / Software Engineer

April 2018 - July 2019, Road 50, Gulshan 2, Dhaka, Bangladesh

- I developed microservices in Go and used Kubernetes and Google Cloud Platform for deployment
- I refactored components of a monolith codebase written in PHP into Go microservices that enabled 10x faster response time. This resulted in higher customer retention, completed transactions and increased yearly revenue by 50K USD.
- I implemented an event sourcing paradigm for decoupling communications among services into events through an event bridge.
- Technologies: Go, Docker, Kubernetes, Prometheus, Grafana, Google Cloud Platform

Meghdut Analytics / Software Engineer

February 2017 - January 2018, Dhanmondi, Dhaka, Bangladesh

- I worked on features for importing Google spreadsheets data using React and Go. This reduced manual work required by customers for uploading data into the platform.
- I implemented data aggregations using Elasticsearch and Go.
- Technologies: Go, React

EDUCATION

The University of British Columbia - Okanagan Campus / Masters in Computer Science

Sep 2019 - April 2022, 3333 University Way, Kelowna, BC Canada V1V 1V7

- My thesis explored gestures in augmented reality using computer vision concepts, MediaPipe, WebAssembly, OpenCV, and Bazel in C++.
- I received a Dean's Entrance Scholarship in 2019, and University Graduate Fellowship in 2020.
- I have also gained experience in various technologies, such as developing smartwatch wearable prototypes using Android, VR apps using Unity and classifying gestures using ML models,

North South University / Bachelors in Computer Science and Engineering

Jan 2013 - Sep 2017, Bashundhara, Dhaka, Bangladesh

- Graduated as Valedictorian with cumulative GPA 3.98 out of 4.00.
- Scored 2nd in the entrance exam.

INTERNSHIPS

Pi School / Apprenticeship

Sep 2022 - Nov 2022, Greater Rome Metropolitan Area, Italy

- I fine-tuned large language models for various natural language processing tasks such as labeling datasets.
- Technologies: PyTorch, NLP, LLM, Zero-shot learning, Google Cloud Platform.

Google Summer of Code / Student Developer

May 2021 - August 2021, Mountain View, California, USA

- My project demonstrated how to run TFLite and XNNPack binaries of popular deep learning models for video using WebAssembly in the browser.
- I created WebAssembly binaries using MediaPipe's Bazel build system and Emscripten.
- I implemented real-time video effects in the browser such as selfie segmentation, face mesh (tracking different locations (landmarks) on the face, etc.
- Technologies: C++, MediaPipe, WebAssembly, JavaScript, TensorFlow, TFLite, XNNPack.

LANGUAGES AND TECHNOLOGIES

- **Programming Language:** C++, Python, WebAssembly, Java, Javascript, Ruby, Go
- **Frameworks:** MediaPipe, NodeJS, Spring, React
- **Libraries:** PyTorch, Tensorflow, OpenCV, OpenGL, WebGL
- **Testing Frameworks:** Mockito, Jest
- **DBMS:** MySQL, Postgres, MariaDB
- **Version Control:** Git
- **Cloud:** EC2, DynamoDB, S3, Application AutoScaling, Lambda, SageMaker, CloudWatch
- **Infrastructure:** Docker, AWS CloudFormation and CDK
- **Monitoring Tool:** Sentry, AWS CloudWatch

WORK AUTHORIZATION

I am a Permanent Resident of Canada