YOSEPH BERHANU ALEBACHEW

1407 Toms Creek Rd Apt 10 | Blacksburg, VA 204060 | 612.221.4767 | yosephcs@gmail.com

SUMMARY

Passionate graduate student and dedicated former Tech Lead with a strong background in software development, research, and education. Currently, working on building tools for cognitive support systems for software developers by incorporating state of the art research and over 10 years of experience in complex software projects.

EXPERIENCE

Graduate Research/Teaching Assistant

Virginia Tech | Blacksburg, VA | Aug 2023 – Present

Conducting research on cognitive support systems to enhance software developer practices.

- Designed and conducting qualitative study to understand bias in the source code review process
- Designed and conducting an experment to descover patterns of interaction that can indicate possible bias in code review

LIS Consultant

World Bank Group | Addis Ababa, Ethiopia | Mar 2022 – Jul 2023

- Led assessments on six Ethiopian land information systems for the Integrated Land Management Project (ILMP), driving governmental capability enhancements.
- Developed high-level requirements for a national system to improve software integration and data sharing.
- Outline land management information system investments, delivering key situation analyses, design recommendations and executed cost-benefit analyses.

Information Technology Consultant

NIRAS International Consulting | Addis Ababa, Ethiopia | Jul 2021 - Sep 2022

- Developed and maintained components for the National Rural Land Information System (NRLAIS) for the Ministry of Agriculture, Ethiopia, using Java EE and Python (QGIS plugin).
- Advised on strategic decisions for the national rollout of NRLAIS, addressing incremental functionality additions and regional expansion challenges, including adapting to diverse regional rules, and open source based implmentations saving the project an estmated $10Mil over 10 years in license cost

Tech Lead

Digital Medarbeider AS | Oslo, Norway (Remote) | Dec 2019 – Aug 2021

- Designed and developed 12 microservice based SaaS applications primarly using .Net Core RESTful APIs and progressive Angular frontend apps.
- Devisied and implmemented CI/CD stratages using gitlab and Azure DevOps to intoruce 45% efficency in delivery time
- Developed and standardized reusable libraries and packages, including authentication, authorization, auditing services.
- Designed and developed a suite of reusable libraries for authentication, authorization, auditing, communication, UI framework, and a common services library featuring semi-automatic localization and external API integration proxies scheduling that resulted in up to 28% improvement project bootstrap speed.
- Led a team of 18 developers, enhancing project execution and delivering high-quality software products.
- Designed and implmented map based services of cross application use including support for the nowrigian SOSI formats.

Software Developer (Consultant)

DAI | Addis Ababa, Ethiopia | Nov 2014 - Jun 2017

- Developed two systems for rural land administation one of which went to consitute the Natioanl Rural Land Administration System
- Desinged and develoved a mass registration (MASSREG) using Java EE, PostGIS, and Python-enhanced QGIS, certifying over 14 million land holders across 150 Woredas.
- Designed and developed a land transaction management system that supported over 20 land transactions with customizeable rules for each that was deployed after MASSREG in all Woredas.
- Designed a custom MIS with Laravel and MySQL, and pioneered an incremental synchronization feature for offline data integrity across 150 deployment sites.

Lecturer

Addis Ababa University | Addis Ababa, Ethiopia | Jul 2014 – Aug 2023

- Delivered core computer science courses, including Programming, Data Structures, Thoeory of Algorithm, Advanced Unix Programming, and Object-Oriented Programming.
- Co-founded and run 4K Labs in 2016, evolving from a RoboCup participant to an AI, robotics, and IoT undergraduate R&D lab.
- Co-organized a community outreach program, teaching introductory computer science to 500+ high school students with the help of 15 volunteer undergraduates.
- Served on academic, community service guideline, and project management committees, enhancing departmental operations.

S K I L L S

- Quantitative and Qualitative Research
- Scikit-learn, TensorFlow, PyTorch
- Python, Java, JavaScript/TypeScript, C#, PHP
- Angular, Spring Boot, Java EE, .NET Core
- PostgreSQL, MySQL, MongoDB
- Azure DevOps, GitLab CI/CD

- Microservices Architecture and SaaS
- Software Project Management
- Tech Leadership
- Map-based Service Development
- Localization and API Integration
- Cost Savings and Efficiency Optimization

E D U C A T I O N

Ph.D. in Computer Science (Expected 2027)

Virginia Tech | Blacksburg, VA

- Working on building systems that support software developers based off their affective and cognitive state.

M.Sc. in Computer Science: Graduate Valedictorian (GPA: 3.96)

Addis Ababa University | Addis Ababa, Ethiopia

- Thesis: "A Framework for Multi-source Prefetching Through Adaptive Weight" – Grade; Excellent
- My thesis work implemented a federated machine learning to improve prefetching performance (the term federated learning actually came a couple of years later)

B.Sc. in Computer Science: Valedictorian (GPA: 3.74)

Addis Ababa University | Addis Ababa, Ethiopia

C E R T I F I C A T I O N S

- **Introduction to Machine Learning with TensorFlow**
  Udacity Nano-Degree program (2022)

- **Mobile Application Developer**
  IBM (2016)

- **Big Data Developer - Mastery Award**
  IBM (2016