

## EDUCATION

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### Virginia Tech

*M.S in Computer Science, GPA: 4.0/4.0. Expected Graduation: Dec 2025*

Originally admitted to Ph.D. program; transitioned to M.S. by thesis track

Blacksburg, VA, USA

*Aug 2023 – Dec 2025*

### Institut Teknologi Bandung (ITB)

*B.S in Computer Science, GPA: 3.84/4.0*

Bandung, Indonesia

*Aug 2018 – July 2022*

## EXPERIENCE

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### Virginia Tech

*Graduate Student Researcher*

Blacksburg, VA

*Aug 2023 – Present*

- Researched human-AI interaction for career preparation and future work with AI in software engineering.
- Developed a multimodal coding interview platform integrating LLMs, text-to-speech, and speech-to-text models to support think-aloud practice. Built using Python, Flask, Vue.js, and TypeScript.
- Implemented a conversational AI for interview preparation leveraging LLMs, grounded in reflective learning and dialogic feedback theory. Designed interactions to engage users as active learners in human-AI collaboration.
- Implemented a proactive AI agent for multi-human collaborative programming and integrated it into a pair programming environment. Built using GPT-4o-mini, text-to-speech, and speech-to-text models.

### Shopee

*Software Engineer*

Jakarta, Indonesia

*Sept 2022 – July 2023*

- Developed 30+ backend APIs in Shopee e-commerce using Golang, MySQL, Redis, and Kafka.
- Led backend development for 3 new major features. Collaborated with the tech lead, product owner, and senior engineers on architecting API designs and system designs for new projects and presented them to 15+ employees.
- Developed ads integration and leaderboard features in an in-app game, increased the game revenue by over 100%.
- Implemented a push notification feature using Kafka, re-engaging churned users by sending personalized messages.
- Migrated a large scale application from Google Cloud Platform (GCP) to an internal cloud system.
- Developed scripts to migrate 100,000+ users' data concurrently using batch processing and lock mechanism.

### Research Collaboration with Boston University

*Machine Learning Research Collaborator*

Remote

*July 2020 – Aug 2022*

- Collaborated with researchers on projects about NLP and machine learning, advised by Prof. Derry Wijaya.
- Co-authored two research papers on NLP and machine learning, published in EMNLP and NLPI conferences.
- Conducted experiments on multimodal news framing classification by fine-tuning BERT-based models.
- Implemented machine learning pipelines focused on explainable AI to generate referring expressions from images, using computer vision and NLP techniques. Developed the solution with Graph R-CNN, Detectron2, and T5.
- Developed NLP pipelines to analyze 10 years of news data, aiming to understand racial stereotypes in media.

### Traveloka

*Software Engineer Intern*

Tangerang, Indonesia

*Aug 2021 – Jan 2022*

- Executed a project migration initiative within a team, collaborating with senior engineers to develop guidelines for migrating a NodeJS-based app to AWS based on company standards.
- Implemented CI/CD pipelines with CodeBuild, CodeDeploy, and CodePipeline, and set up ECR and ECS-Fargate, managed in Terraform scripts.

## HONORS & AWARDS

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- **Best UT Prosim Hack at VTHacks11:** Won a hackathon at Virginia Tech with over 600 participants.
- **ICPC Mid-Atlantic USA Regional (2023):** Top 25 in the division 1 regional competitive programming contest.
- **Top 12 Global Finalist in EY Data Challenge:** An International Data Science competition. Selected as a global finalist out of 8700+ participants. Implemented algorithm to predict fire behavior in forest fire using Python.

## SKILLS

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**Programming:** Python, Golang, Java, C++, JavaScript, TypeScript, VueJS, NodeJS, Flask, Django, SQL, MySQL, PostgreSQL, MongoDB, Git, AWS, Terraform, Docker, Redis, Kafka, PyTorch, Scikit-learn, Langchain.

## PUBLICATIONS

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- **Daryanto, T.**, Stil, S., Ding, X., Manesh, D., Lee, S. W., Lee, T., Lunn, S., Rodriguez, S., Brown, C., and Rho, E.. (2025). Designing Conversational AI to Support Think-Aloud Practice in Technical Interview Preparation. *The IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC) 2025*.
- **Daryanto, T.**, Ding, X., Wilhelm, L., Still, S., Knutsen, K., and Rho, E. (2025). Conversate: Supporting Reflective Learning in Interview Practice Through Interactive Simulation and Dialogic Feedback. *The ACM International Conference on Supporting Group Work (ACM GROUP) 2025*.
- Tourni, I., Guo, L., **Daryanto, T.**, Zhafransyah, F., Halim, E. E., Jalal, M., ..., and Wijaya, D. T. (2021). Detecting frames in news headlines and lead images in US gun violence coverage. *Findings of the Association for Computational Linguistics (ACL): 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.
- **Daryanto, T.**, and Khodra, M. (2022). Indonesian AMR-to-Text Generation by Language Model Fine-tuning. *2022 9th International Conference on Advanced Informatics: Concepts, Theory and Applications (ICAICTA)*.
- Le, H., **Daryanto, T.**, Zhafransyah, F., Wijaya, D., Coppock, E., and Chin, S. (2022). Referring expressions with rational speech act framework: A probabilistic approach. *2022 International Conference on NLP and Information Retrieval*.

## COURSE PROJECTS

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- **Visualizing News Narrative for Data Exploration:** Developed a tool to visualize news narratives about COVID-19. Applied UMAP to project news embeddings into a 2D space and performed clustering, then visualized the narrative paths among the news. The tool was developed using JavaScript and D3.js.
- **Analyzing Presidential Debates:** Analyzed dialogue acts in U.S. presidential debates (2012–2024) by leveraging few-shot prompting with GPT-4, enabling classification of dialogue acts and uncovering patterns in debate transcripts.
- **AI-Assisted Production Debugger:** Developed an LLM-based debugger using retrieval-augmented generation (RAG) and human-in-the-loop approach to debug production issues based on logs and codebase. Built with Python, Flask, LangChain, Vue.js, Graylog, TypeScript, HTML, and CSS.