

TRAN THAI HUU LOC, M.D

tranthaihuuloc2@gmail.com

3/7 Binh Gia Street, Ward 13, Tan Binh District, Ho Chi Minh City, Vietnam

PROFESSIONAL SUMMARY

I am an obstetrician and gynecologist. Alongside my clinical work, I have a background in programming, mathematics, and bioinformatics. I focus on applying analytical techniques to address challenges in women's health, aiming to find data-driven solutions to support patient care.

In bioinformatics, I have experience with analytical methods, including single-cell analysis, to understand cellular heterogeneity. I have also collaborated with scientists from the US, Australia, and Japan. These joint ventures have led to several co-authored publications. My goal is to combine foundational science with applied technology, contributing to advancements in healthcare.

EDUCATION

School of medicine - Vietnam National University - Ho Chi Minh city | 2013 - 2019

Doctor of Medicine (M.D.) – 6 years program

WORK EXPERIENCES

Obstetrician and Gynecologist at the Department of Obstetrics and Gynecology, Hong Hung Hospital, Tay Ninh City, Viet Nam | Fulltime | 3/2025 – present:

Roles:

- Specialize in the diagnosis and management of high-risk pregnancies, including conditions such as pre-eclampsia, placenta previa, and gestational diabetes.
- Proficient in advanced minimally invasive surgical techniques, including laparoscopic hysterectomy, myomectomy, and other operative laparoscopies.
- Utilize advanced ultrasound and fetal monitoring techniques for the comprehensive assessment of fetal well-being and the early detection of congenital anomalies.
- Provide expert consultation and evidence-based treatment for complex gynecological conditions such as endometriosis, uterine fibroids, and pelvic inflammatory disease.
- Contribute to the department's Continuing Medical Education (CME) program by presenting on recent advancements and complex case studies in obstetrics and gynecology.

Scientific Content Writer, DataXight Company, 800 W. El Camino Real, Suite 180 Mountain View, CA 94040, USA |

Part-time | 3/2026 – present:

Roles:

- I am responsible for developing bioinformatics scientific content and data analysis for drug research using Single-Cell Perturbation technology.

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Obstetrician and Gynecologist at the Department of Obstetrics and Gynecology, My Duc Hospital, Ho Chi Minh City, Viet Nam | Fulltime | 1/2021 – 3/2025:

Roles:

- Manage prenatal care and address pregnancy-related complications.
- Perform surgical interventions, including cesarean sections and laparoscopies.
- Diagnose and treat female reproductive disorders.
- Provide routine health check-ups and contraceptive counseling.
- Collaborate with medical professionals for comprehensive patient care.
- Stay updated with advancements in obstetrics and gynecology.
- Handle emergency care related to childbirth and gynecological conditions.
- Maintain accurate patient records.

Bioinformatician, Single Cell Analysis at BioTuring company (4445 Eastgate Mall, Suite 200, San Diego, California 92121, USA) | Fulltime | 10/2019 – 4/2020

Roles:

- Analyze single cell sequencing data to extract meaningful biological insights.
- Implement and optimize algorithms for single cell data processing and visualization.
- Collaborate with biologists to interpret single cell results in a biological context.
- Develop and maintain pipelines for single cell data preprocessing, clustering, and differential expression analysis.
- Stay updated with the latest techniques and algorithms in single cell bioinformatics.
- Troubleshoot and resolve issues related to data quality and analysis.
- Collaborate with software engineers to integrate new features into Bioturing's bioinformatics tools.
- Participate in interdisciplinary teams to advance research and product development.

PUBLICATIONS

1. Sherief Ghozy, Nguyen Minh Dung, Mostafa Ebraheem Morra, Sara Morsy, Ghadeer Gamal Elsayed, Linh Tran, Alzhraa Salah Abbas, **Tran Thai Huu Loc**, Truong Hong Hieu, Truong Cong Dung, Nguyen Tien Huy. (2020). Efficacy of kinesio taping in treatment of shoulder pain and disability: A systematic review and meta-analysis of randomised controlled trials. *Physiotherapy*, 107, 176-188.
2. Tri Le, Tan Phan, Minh Pham, Dat Tran, Loc Lam, Tung Nguyen, Thao Truong, Hy Vuong, Tam Luu, Nam Phung, Ngan Pham, Trang Nguyen, Oanh Pham, An Nguyen, Huy Nguyen, Hao Tran, **Loc Tran**, Ha An Nguyen, Thanh Tran, Nhung Nguyen, Ngoc Tran, Cecilie Boysen, Uyen Nguyen, Vy Pham, Theodore Kim, Ngoc Pham, Tristan Gill, Son Pham. (2020). BBrowser: Making single-cell data easily accessible. *BioRxiv*, 2020-12.
3. Shahnewaj Bin Mannan, Heba Elhadad, **Tran Thai Huu Loc**, Mohamed Sadik, Muawia Yousif Fadlelmola Mohamed, Nguyen Hai Nam, Nguyen Dinh Thuong, Bao-Long Hoang-Trong, Nguyen Tran Minh Duc, An Nguyen Hoang, Khaled Mosaad Elhusseiny, Tran Thuy Huong Quynh, Thai Le Ba Nghia, Y Mai Nhu, Thuan Minh Tieu, Kenji Hirayama, Nguyen Tien Huy, Shinjiro Hamano (2021). Prevalence and associated factors of asymptomatic

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leishmaniasis: a systematic review and meta-analysis. *Parasitology international*, 81, 102229

4. Truong Quang Binh, Nguyen Lam Vuong, Nguyen Van Khoi, Muhammed Khaled Elfaituri, **Tran Thai Huu Loc**, Mohamed Gomaa Kamel, Nguyen Tien Huy. (2019). *NT-proBNP incorporated in prediction rule of major peri-operative adverse cardiac event in non-cardiac surgery. The Surgeon*, 17(3), 127-132.
5. Luu, P. L., Ong, P. T., **Loc, T. T. H.**, Lam, D., Pidsley, R., Stirzaker, C., & Clark, S. J. (2021). MethPanel: a parallel pipeline and interactive analysis tool for multiplex bisulphite PCR sequencing to assess DNA methylation biomarker panels for disease detection. *Bioinformatics*, 37(15), 2198-2200.
6. Hoai, D. T. P., Tai, L. L. T., **Loc, T. T. H.**, Mohamed, M. Y. F., Ahmed, A. M., & Huy, N. T. (2021). Factors associated with the success of trial without catheter in acute urinary retention due to benign prostatic hyperplasia. *Urological Science*, 32(2), 71.
7. Van TT Tran, Luong D Ly, Minh HN Nguyen, Toan D Pham, **Loc TH Tran**, Mai TN Tran, Vu NA Ho, Nam T Nguyen, Hieu LT Hoang, Lan N Vuong. (2023). Thyroid Peroxidase Antibodies in Infertile Women with Polycystic Ovary Syndrome. *Reproductive Sciences*, 1-6.
8. A Mohammed, DNH Tam, TLH Vu, TM Tieu, MK Elfaituri, NN Trinh, EA Sagheir, Linh Tran, **TTH Loc**, SK Low, S Mizukami, K Hirayama, NT Huy. (2020). Morinda morindoides: A systematic review of its therapeutic activities. *South African Journal of Botany*, 131, 93-103.
9. Kien Nguyen Dang, Mohammad Rashidul Hashan, Le Huu Nhat Minh, Khalid Muhammad Khalaf, Hassan Yousif Ibrahim, Alberto Dessi, Mohamed Abdalla Azzam, **Tran Thai Huu Loc**, Kenji Hirayama, Nguyen Tien Huy. (2020). Follicular Fluid Meiosis-Activating Sterol in Assisted Reproductive Techniques: A Systematic Review and Meta-analysis of Randomized Controlled Trials. *Fertility & Reproduction*, 2(04), 144-159.

PROFESSIONAL PRESENTATIONS

1. Thai Huu Loc, T., Nguyen, N. T., Ho, V. N., Pham, T. D., Ho, T. N., Nguyen, M. H., ... & Vuong, L. N. (2024). O-257 Comparing the accuracy of the novel clustering model versus phenotype classification in predicting live birth in polycystic ovary syndrome women undergoing In-Vitro fertilization. *Human Reproduction*, 39(Supplement_1), deae108-304.
2. Elfaituri, M. K., Alkomos, M. F., **Loc, T. T. H.**, Hue, N. T. L., Alshareef, A. A., Kalo, A., ... & Huy, N. T. (2018). Probiotics Treatment in Ulcerative Colitis: A Systematic Review and Meta-Analysis of Randomized Clinical Trial: 680. *Official journal of the American College of Gastroenterology* | ACG, 113, S382.
3. Elfaituri, M. K., Alkomos, M. F., Kalo, A., Hue, N. T. L., **Loc, T. T. H.**, Alshareef, A. A., ... & Huy, N. T. (2018). Probiotic Treatment for Crohn's Disease: A Systematic Review and Meta-Analysis: 2814. *Official journal of the American College of Gastroenterology* | ACG, 113, S1560

PEER-REVIEWER

Human Genomics (Springer Nature)

2023-present

HONORS AND AWARDS

Special prize in the startup competition to develop the relationship between Vietnam and Korea - The award was presented by the former Prime Minister of Korea

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Certificate of Merit from the dean of the medical school for dedication to the development of the medical school

Certificate of Merit for excellent completion of the task of fighting the COVID-19 epidemic

PROFESSIONAL SKILLS

Clinical skills:

- Demonstrated expertise in managing high-risk obstetric cases, including conditions requiring specialized care such as pre-eclampsia, placenta previa, and gestational diabetes.
- Skilled in the application of advanced diagnostic tools, including comprehensive ultrasound and fetal monitoring, to assess fetal health and identify congenital anomalies at an early stage.
- Proficient in overseeing all phases of labor and delivery, encompassing both routine vaginal births and surgical interventions like cesarean sections , as well as managing acute obstetric emergencies.
- Dedicated to providing thorough prenatal and postpartum care to promote maternal well-being and effectively address any complications arising during pregnancy.
- Proficient in performing advanced minimally invasive procedures, such as laparoscopic hysterectomy and myomectomy, to treat a range of gynecological conditions.
- Specialized knowledge in the evidence-based treatment of complex gynecological disorders, including endometriosis, uterine fibroids, and pelvic inflammatory disease.
- Committed to women's preventative health through routine gynecological examinations and providing tailored contraceptive counseling.

Bioinformatics skills:

- Good knowledge of working with Python, R, Linux, and GitHub.
- Skilled in programming neural networks and analyzing gene sequences.
- Proficiency in single cell analysis techniques.
- Expertise in epigenetic data interpretation and analysis.
- Familiarity with various bioinformatics tools and databases.
- Ability to integrate and analyze multi-omics data.

Biostatistics skills:

- Statistical Analysis: Proficiency in applying a wide range of statistical tests and methods tailored for biological data, such as t-tests, ANOVA, regression models, and non-parametric tests.
- Experimental Design: Expertise in designing robust experiments, ensuring minimized biases, and maximizing the reliability and validity of results.
- Multivariate Analysis: Skilled in techniques like Principal Component Analysis (PCA) and Cluster Analysis to understand patterns and relationships in multidimensional data.
- Survival Analysis: Ability to analyze and interpret time-to-event data, commonly used in clinical trials and epidemiological studies.
- Epidemiological Methods: Proficiency in calculating and interpreting measures such as odds ratios, relative risks, and incidence rates.
- Power Analysis & Sample Size Determination: Skilled in determining the appropriate sample size needed to detect a significant effect, ensuring studies are neither underpowered nor wastefully overpowered.

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- Data Visualization: Ability to create meaningful and interpretable visual representations of complex biological data, using tools like ggplot2 in R.
- Longitudinal Data Analysis: Expertise in analyzing data collected over time, understanding trends, and accounting for time-dependent confounding.
- Bayesian Statistics: Familiarity with Bayesian methods and their application in biological and clinical contexts, allowing for the incorporation of prior knowledge into statistical models.
- Meta-analysis: Ability to combine data from multiple studies to derive consolidated conclusions, enhancing the statistical power and generalizability of findings.
- Software Proficiency: Expertise in using statistical software packages such as R, Python, SAS, SPSS, and STATA for complex data analysis.

Research skills:

- Carried out multiple research projects independently.
- Experienced and confident in establishing procedures, instrumentation, and conducting data analysis.
- Skilled in experimental design and hypothesis testing.
- Proficient in statistical analysis and interpretation of complex datasets.
- Ability to collaborate with international teams and multidisciplinary experts.

LANGUAGE

English (Full Professional Proficiency); Vietnamese (native).

MEMBERSHIPS IN HONORARY SOCIETY

International Society of Ultrasound in Obstetrics and Gynecology (ISUOG)

Fetal Medicine Foundation (FMF)

The Asia & Oceania Federation of Obstetrics & Gynaecology (AOFOG)

PERSONAL ACADEMIC INFORMATION

Google scholar: <https://scholar.google.com/citations?user=r9JCRRUAAAAJ&hl=en>